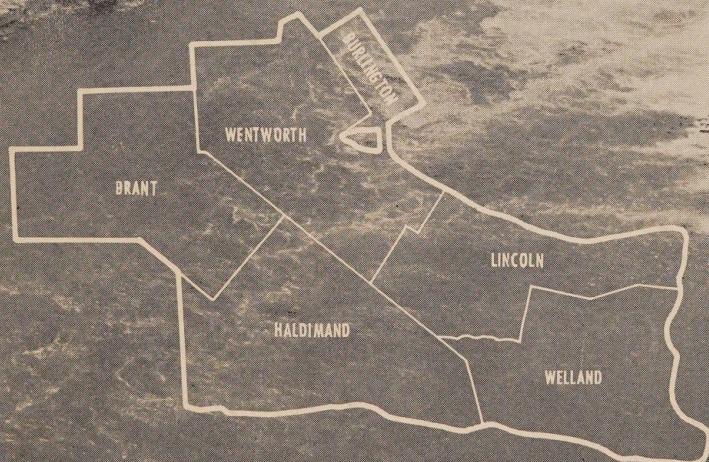


NIAGARA REGION



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ECONOMIC SURVEY *series*

SPECIAL RESEARCH AND SURVEYS BRANCH

ONTARIO DEPARTMENT OF ECONOMICS AND DEVELOPMENT

1963

HON. JOHN P. ROBARTS
Prime Minister of Ontario

HON. ROBERT W. MACAULAY
Minister of Economics and Development



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ECONOMIC SURVEY OF THE NIAGARA REGION

Prepared by

The Special Research and Surveys Branch

ONTARIO DEPARTMENT OF ECONOMICS AND DEVELOPMENT

1963

HON. JOHN P. ROBARTS
Prime Minister of Ontario

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Preface

The Niagara Economic Survey is the sixth in a series released by the Ontario Department of Economics and Development on the ten economic regions of the Province. Traditionally, the Town of Burlington has been a member municipality of the Niagara Regional Development Association and hence, for purposes of this Survey, we have considered the area as belonging to the Niagara Economic Region. Our seventh study in the regional economic series — the Upper Grand River Economic Region — will be published later this year and will deal with Mid-Western Ontario.

As has been our practice in preceding economic studies, this Survey examines the major elements of economic activity, analyzes change and direction of growth, and points up the Region's contribution to the Province's economy. The 'Niagara' is the most comprehensive study yet produced in this series.

For the first time in the preparation of our Regional studies, we are including material prepared outside our Department. This special contribution to the content of the Niagara Economic Survey has been made by the Community Planning Branch of the Ontario Department of Municipal Affairs in the form of chapters on the Physical Base and Urban Expansion and Community Planning, the section on The Niagara Fruit Lands as well as maps and statistical tables. We wish to extend our appreciation to Col. A. L. S. Nash, Assistant Deputy Minister, Community Planning, to Mr. M. H. Sinclair and Mr. C. R. Anderson who prepared the textual and statistical material and to Mr. G. D. Cameron who was responsible for the production of the maps.

These studies tie in with the Government's policy of encouraging a sound and progressive form of economic development across the Province and serve to support the Department's regional development program as reflected in the energetic work of our nine Regional Development Associations. These reports provide a wealth of factual economic and statistical data designed to form a solid basis of information for all engaged in economic development on a regional basis.

The material for this study was prepared in the Special Research and Surveys Branch of the Department of Economics and Development under the direction of Mr. O. M. Schnick and Mr. H. Banning. The research, analyses, and preparation of the text were carried out by Mrs. D. M. Callender with the assistance of Mr. K. Durzi and others. Mr. W. Cameron and Mr. J. N. Heginbottom, staff members of the Branch, prepared the economic charts and maps. We are grateful to Mr. D. G. Wooldridge of the Economic Studies Branch in the Federal Department of Public Works for review and comment regarding various sections of the study, Mr. J. A. Richards, general manager of the Niagara Regional Development Association, who was most helpful to our team of economists in both arranging for and carrying out basic field survey work, and to Dr. Ralph R. Krueger,

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Chairman of the Department of Geography at Waterloo University, for allowing us to include one of his charts in our survey, to Mr. D. F. McOuat, Director of the Historical Branch of the Department of Travel and Publicity and Mr. Verschoyle Blake, Historian in that Branch, who reviewed the Historical Sketch.

We wish also to thank other organizations for their co-operation and aid in assembling data. Our appreciation goes to the Dominion Bureau of Statistics, the Ontario Departments of Agriculture, Highways and Travel and Publicity as well as to The Hydro-Electric Power Commission of Ontario, The Bell Telephone Company of Canada, the Canadian National Railways and the Canadian Pacific Railway Company.

STUART W. CLARKSON

Deputy Minister

July, 1963.

Introduction

The Niagara Region covers an area of 2,170 square miles and includes the Peninsula Counties of Lincoln, Welland and Haldimand as well as the Counties of Wentworth and Brant and the Town of Burlington. Its 762,288 inhabitants represent slightly more than 12 per cent of Ontario's population, but its contribution to Gross Provincial Product is second only to that of the Metropolitan Region.

The 'Niagara' was one of the first areas to be settled and, as one of Canada's first frontiers, it has a long and colourful history. Thus, for the first time, a comprehensive section on historical developments has been included in this Regional Survey.

Endowed with abundant water resources, the Region was the first to produce hydro-electric power on a commercial basis. The availability of abundant low-cost power was instrumental in attracting a large number of power-intensive industries to the Niagara. Water resources in the form of harbours, rivers and canals also made it possible for the Region to enjoy the benefits of cheap water transport.

The Region's manufacturing industries have been nurtured not only by cheap power, low-cost water transportation and good rail and road connections but by the proximity to the thickly populated centres of Canada and the United States. The Chapter on manufacturing clearly illustrates the highly diversified nature of the sector. It has a large food and beverage industry which supplies the Region's inhabitants and other areas outside as well as a nucleus of heavy industries, some of which are engaged in the manufacture of iron and steel products, pulp and paper, chemicals (industrial and pharmaceutical) and manufacturing and agricultural implements. Light industries in the Region include abrasives, electrical appliances and textiles.

The study examines and identifies the salient features of the Niagara Region in the chapters on Physical Base, Population, Labour Force and Earnings, Agriculture, Manufacturing, Mining, Energy, Tourist Trade, Construction and Housing and Trade. The final chapter on Counties and Municipalities provides a synopsis of activities in the five counties and their incorporated centres and also in the Town of Burlington.

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Historical Sketch

The Niagara Region possesses a combination of characteristics that has both nurtured the Region's colourful history and established the area as a focal point of Canada's economic development. Its position in relation to the early industrial centres of the eastern United States has not only made the Peninsula a gateway for trade and for the entry of industrial techniques, but also facilitated an interchange of migrants and travellers with those States. Since the latter years of the nineteenth century, the mighty waters of Niagara Falls have been used to generate electricity which is now channelled to factories, farms and homes within the area and far beyond its boundaries. Its particularly temperate climate and excellent soils have fostered the specialized agricultural pursuits which have given the district a thriving agricultural industry typified by the famous Fruit Belt of Ontario. In addition, the Peninsula's beautiful scenery, along with its dramatic past, has made it a mecca for tourists from all parts of the world. Over and above all these benefits, this endowment bestows countless economic and social benefits on the Region's inhabitants and enables them to enjoy a high standard of living.

The very word Niagara is a reminder of the Region's history. It is believed to be derived from *Onghiara*, meaning Thunder of Waters, a name for the historic Indian settlement on the Niagara River. Originally, this settlement, the entire Peninsula and part of New York State were inhabited by the Attawandorons who were called the Neutral Nation because they attempted to remain in the area by avoiding conflicts with both the Hurons to the north and the Iroquois to the south. Their effort failed, however, when they were caught in the struggle between these two nations for control of the fur trade. In 1650, the Neutrals were all but annihilated by the Iroquois, who had destroyed the Hurons in the previous year.

Up until the time of the French surrender of Canada, consummated by the Treaty of Paris in 1763, the events which occurred in the Region were primarily a result of the Peninsula's strategic location. Later, with the coming of European settlers to the interior of the North American Continent, the climate and soils of the Peninsula, as well as its location, became important.

During the early part of the French regime only exploration, missionary work and the fur trade brought Europeans to the Region. The first known European visitor was Etiènne Brûlé, Champlain's interpreter, who may have crossed the Region when sent to bring help from the southern tribes for Champlain's unsuccessful attack on the Iroquois in northern New York State. During 1626, a Récollet missionary, Father de La Roche d'Aillon, spent some time in what is now Haldimand County. He was followed in 1640 by the Jesuit Fathers Jean de Brébeuf and Pierre Chaumonot. Although they had probably heard of Niagara Falls, which had been indicated on Champlain's map as early as 1632, none of these travellers actually recorded visiting it. The first European to do this was a Jesuit, Father Ragueneau, who merely noted that on a voyage down the Lakes in 1648 he had seen the Falls.

During the autumn of 1669, Robert Cavelier de La Salle, an explorer, entered Macassa Bay, now Hamilton Harbour, and crossed the Peninsula to the site of an

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Iroquois hunting camp called Tinawatawa, located a dozen miles northwest of Hamilton. There he is believed to have encountered Louis Jolliet who was returning to Quebec from Lake Superior. When informed that he should spend the winter in the vicinity before going on, La Salle travelled back to Montreal. Meanwhile part of his expedition led by Father François Dollier de Casson and René Brehant de Galinée, made its way down the Grand River and along the northern shore of Lake Erie. This group wintered on Black Creek and then continued on its way up the Great Lakes to Sault Ste. Marie.

La Salle did not visit the district again until the late autumn of 1678. This time he proceeded to the Niagara River where he established a trading post at the site of Lewiston, New York. The Iroquois would not permit him to maintain a post at the River's mouth. During the following spring, La Salle built the 'Griffon', the first ship to sail on the Upper Lakes. He was accompanied on this expedition by Father Louis Hennepin, the first European to sketch and describe the splendour of Niagara Falls.

As the search for furs intensified, friction mounted among the various trading groups. While the quest led the French steadily westward, the British encouraged the Iroquois to use the Peninsula both as a bridge to the northern hunting grounds where they attacked parties travelling between the West and Montreal, and as a convenient place to intercept traffic with the Ohio Valley. The French attempted to put an end to this interference in 1687 by building a fort, named Fort Niagara, at the mouth of the River near the present site of Youngstown, New York, but disease and a food shortage forced them to abandon it a year later. Another attempt was made between 1726-7 when Louis Thomas de Joncaire, a French officer, raised by the Iroquois, established a trading post at La Salle's former post. Five years later they were permitted to reconstruct Fort Niagara. Later, about 1745, another trading post, Fort de Portage, was erected at the upper end of the Niagara portage and a blockhouse was built at Chippawa across the River.

The British overcame this barricade by capturing Fort Niagara in 1759. In spite of the fact that they had won control of the fur trade, they still had to protect it from marauding Indians. Fort Niagara was, therefore, reconstructed and in 1764, Fort Erie was built at the other end of the Niagara River. The importance of the British victory for the Niagara Peninsula in the long run, however, was not the gain derived from the fur trade but the fact that it paved the way for settlement.

The first large influx of settlers into the Region was precipitated by the American Revolution (1776-1783). During the early 1780's the loyal Iroquois, chiefly Mohawks, and a large number of Loyalists, including veterans of Butler's Rangers, moved into the district. The white settlers located in the most accessible places on the Region's lakeshores and rivers particularly those below the Niagara Escarpment. Many of the Peninsula families of today can trace their ancestry to these Loyalists, who were of English, Irish, Scottish, Dutch, German and French Huguenot stock. Land along the Grand River was given to the Six Nations Indians and Joseph Brant, chief of the Mohawks, established the main Indian village near

the present site of Brantford. Although much of the original Reserve has been given up over the years, many of their descendants still live along the River. One of the most outstanding persons from this area was the Indian poetess E. Pauline Johnson, whose verse appealed not only to her native Grand River Valley, but to the whole of Canada.

As time passed the new inhabitants became established and local manufacturing enterprises sprang up over the Peninsula. Many flourmills, sawmills and woollen mills were built along the Region's many rivers. Later, foundries producing agricultural implements and iron goods were constructed, in the main, along the Niagara River where American iron was available and American techniques could be observed and adopted.

As it developed, the Region became a centre of political activity. The first town meeting in what was to become the Province of Upper Canada was held at The Forty, now Grimsby, in 1790. Lieutenant-Governor John Graves Simcoe chose the town of Lennox which he renamed Newark, to be the capital of Upper Canada. This is now known as Niagara-on-the-Lake.¹ Here, in 1792, Lieutenant-Governor Simcoe opened the first session of the first Legislature of Upper Canada.

The first roads in the Niagara Region were among the earliest in Upper Canada. They were based on Indian footpaths used chiefly in winter and leading to the River Thames; to Long Point on Lake Erie and along the shores of Lake Ontario. After 1750 couriers of an annual winter post were using paths from the French forts at Niagara and Detroit which met at the south end of Burlington Beach and continued across the beach to Fort Rouillé at "Toronto" and Fort Frontenac at Cataraqui. The path from Niagara (and later Fort Erie) followed the south shore of Lake Ontario. The "Detroit Path", as mapped in the 1790's, climbed the Escarpment at Ancaster, forded the Grand River at Brantford and reached the Thames near Beachville. From that point it followed the Thames almost to Lake St. Clair, at first cutting across the larger bends of the river.

The Loyalist settlers of the 1780's brought their horses and cattle along these paths and soon developed them into sleigh roads and even trails passable by wagons. In 1791, a surveyor records two "roads" across the Indian Lands to Long Point; one starting from the Detroit Path beyond the Grand River and the other running from the site of Grimsby at the Forty Mile Creek to join it near the site of Waterford. A trail from Fort Erie to Long Point had been developed along the shore of Lake Erie and wagons were being used on part of it by 1795.

The first provincial highway in Upper Canada was surveyed in 1793 from the head of Coote's Paradise (Dundas) to the Thames at the site of Woodstock. This was to form part of Dundas Street, a military road planned by Simcoe to run across the Province from Lower Canada to Detroit. The road was opened for wagons as far as the Grand River (at Paris) before the end of 1793, continued to York in 1796 and to Kingston in 1799-1801. This Thames road became and

¹The legal name is Niagara but by decree of The Canadian Post Office Department it is called Niagara-on-the-Lake.

remained the route preferred by travellers; Dundas Street (Governor's Road) was neglected.

A new provincial highroad was authorized in 1804 to follow the existing road to Waterford and continue southwestward to Port Talbot and Delaware. It was intended to extend this highroad along Lake Erie to Sandwich. Before this road was completed parts of it were included in a new settlement road called Talbot Street, surveyed in 1809-10 and extended in 1811 to the north and west of St. Thomas. It was not until after 1819 that this Talbot Road finally reached Sandwich. By that time the old road from Ancaster to Delaware had been officially recognized as part of the provincial highway called Dundas Street. Governor's Road was regarded as of minor importance and the official view was that a single long highroad began at the outlet of Burlington Bay, followed the shores of the Niagara Peninsula to Port Dover, joining Talbot Street at the site of Delhi and following it to Sandwich. Other government roads were opened in the 1820's to connect Hamilton and Dundas with new areas of settlement to the north and northwest. The Talbot Road was extended eastward from Simcoe to cross the Grand River at Cayuga and reach the Niagara River near Niagara Falls.

It was by these roads, but especially by the stage road from Hamilton to London and Delaware, that the stream of immigrants moved westward in 1825-36. All the roads were bad; travel was slow and land freight both slow and costly. A good deal of government money was spent on roads before 1840, without producing much improvement. Tolls were introduced on a few government roads about 1836 and a few roads were planked or macadamized. Some new roads such as the Hamilton and Port Dover Plank Road (1843-5), were built to cross the Grand at Caledonia. Most of the improved government roads became toll roads and a few were set up by road companies. Such companies became more numerous after an Act of 1849 allowed municipalities to raise funds for road building. Most of the government toll roads and bridges were sold in 1850; but new ones continued to be built privately until the completion of the railways began to reduce the profits from tolls. After 1860 the toll roads began to be purchased by the counties, but the removal of tolls took place very slowly and in some cases they were still being charged at the end of the century.

When the War of 1812 began, the number of former Americans living in the British Provinces was so large that many in the United States believed it would be simply 'a mere matter of marching' to take Canada. Upper Canada was their prime target and the Niagara Peninsula, a gateway to it. The Peninsula became the central battleground of the War when its inhabitants, including the Indians, joined with the British to fight the invaders.

From the opening battle of Queenston Heights to the closing siege of Fort Erie, the War was waged back and forth through the Region and was highlighted by clashes at Stoney Creek, Beaver Dams, Black Rock, Fort Niagara and Fort George. These battles led to the burning of Newark, Queenston and St. Davids and to the general ravishment of the Peninsula which had an adverse effect upon the economic

development of the area. One of the fiercest battles of all, however, was that of Lundy's Lane which marked the last major encounter of the War in the Region. This struggle provided the colonists with their first taste of unity, a sense of national identity and two national heroes. One of the heroes was General Sir Isaac Brock, whose courage inspired General Roger Hale Sheaffe's victory at Queenston Heights. The other was Laura Ingersoll Secord whose trek to Beaver Dams is another evidence of the loyalty and courage exhibited during the War.

While the Peninsula continued to play its role as a corridor for traffic to and from the United States, this aspect of its development was dwarfed for the moment by the progress that accompanied the arrival of the large number of British immigrants who came to Upper Canada after the War of 1812 ended. In the fifteen-year period following 1824, the Province's population nearly trebled reaching 432,000 by 1840. As the wave of immigrants opened the western portion of Upper Canada, east-west traffic grew in importance and the need for improved means of transportation became evident. Between 1824 and 1830, the Honourable William Hamilton Merritt built the first Welland Canal from Port Dalhousie to the Welland River at Port Robinson. By avoiding the slow and costly portage around the Falls, the Canal provided an alternative to the Erie Canal that led from Lake Erie to the Atlantic Ocean via the Mohawk and Hudson Rivers. In 1832, the Burlington Canal was improved and connected Hamilton Harbour with Lake Ontario, while in 1837 the Desjardins Canal was completed to link Dundas with that harbour. About this time as well, the Grand River Navigation Company opened the Grand River to barge and small river boat traffic from Lake Erie as far upstream as Brantford.

The initial steps in these advances produced many stresses and strains in the existing economic and social structure which grew to the extent that they divided the inhabitants of both the Region and the entire Province into hostile groups. Although the canals brought many benefits to the Peninsula as a whole, many of its inhabitants, particularly those in the less developed rural areas, were disappointed. They still did not enjoy the same high level of prosperity as their neighbours in the United States, whose competition in domestic markets, especially livestock, was deeply resented. This general discontent was aggravated by the fact that the social, economic and political pressures unleashed by the population growth placed a heavy strain upon the established approach towards land, education and religion.

The rural residents particularly disliked the Government's land policies which favoured the speculators over actual farmers and the Church of England over other Protestant denominations. In addition, the farmers felt that the money used to assist the canal builders could have been better employed to improve the roads, thus enabling them to take their own produce to market. Canadian shippers and merchants, for their part, wanted to develop the transportation business by carrying both Canadian and American goods through the Welland Canal and St. Lawrence River system. Because merchandise carried via this route received preferential tariff treatment in the British market, they held an advantage over

their American competitors. Their prospects for the future were, therefore, extremely bright, a fact which served to further increase the discontent of less fortunate groups.

Since the shippers, merchants and canal builders were identified in the minds of the farmers with the ruling oligarchy known as the Family Compact, resentment directed against them sharpened when the Reform Party allied itself with rural sentiment. As dissatisfaction spread, the Peninsula became a centre of the unrest which led to the Rebellion of 1837. In 1819, Robert Gourlay, an early reformer, stirred up so much discontent in the Region that he was tried for sedition at Niagara-on-the-Lake and eventually expelled from Upper Canada. Later in 1824 William Lyon Mackenzie, the leader of the Reform Party, printed the first editions of his anti-government newspaper, the *Colonial Advocate*, at Queenston. Influenced by both American democracy and the British reform movement, the reformers sought a stronger voice for all in the affairs of government. However, a large part of the population sided with the Family Compact because it feared that the unruly Reform Party might prove disloyal to the Crown.

A crop failure, severe financial panic and a commercial slump in 1837 finally brought matters to a head. One major act of rebellion in the Region occurred when one of Mackenzie's associates, Dr. Charles Duncombe, attempted to rouse the western part of Upper Canada by organizing a band of rebels at Scotland, now in Brant County. Those who joined him, however, dispersed on learning that the main insurgent attack at Toronto had failed. Mackenzie and most of the other leaders then fled to the United States. With the help of an American, Rensselaer Van Rensselaer, Mackenzie set up a 'Provisional Government' on Canada's Navy Island in the Niagara River which was supplied by an American steamer, the Caroline. After burning that ship, the forces of the Family Compact under Sir Allan Napier MacNab bombarded the Island and compelled Mackenzie to retreat to the United States. The rebels allied themselves with the Hunter's Lodges secret American societies whose association with sporadic attacks along the border during the next two years brought a British-American war dangerously close. In the only substantial attack in the district, a small force staged a raid in the Short Hills southwest of St. Catharines. This attempt was quickly put down and most of the participants were captured.

Although these events slowed the growth of the Region for a time, they led to the Act of Union (1841) which brought Upper and Lower Canada together. The united Canadas made the 1840's a decade of canal construction which in 1848 saw the completion of a navigable St. Lawrence River system with a nine-foot draught.

These canals influenced both the rate and direction of economic development in the Region. While the canals into Hamilton Harbour were to expedite that City's expansion during the latter half of the nineteenth century, the Welland Canal and the waters leading into it immediately attracted industry to their vicinity. The Canal both facilitated transportation and created the Region's first adequate reserve of power. Merritton and Port Dalhousie, which are now part of St. Catharines, as

well as Thorold, Welland and Port Robinson, all owe their growth in large measure to the Canal. A similar boom was brought to Cayuga and Dunnville on the Grand River from which a feeder canal was dug to maintain sufficient water in the section of the Welland Canal from the Welland River to Lake Erie that was built from 1830 to 1833. St. Catharines became the principal town in the Region; its location on the Canal and the turnpike road placed the expanding coach-making business and the flourishing shipbuilding enterprises among its early industries.

The feeder canal and the Grand River navigation project spurred the development of the agricultural industry in the southern and western portions of the Peninsula. Improved drainage due to their construction combined with the sale of Indian Reserve lands to encourage settlement in the interior of the Region and to facilitate the expansion of farming. As this growth took place, advanced agricultural techniques began to spread throughout the district. New systems of crop rotation, better varieties of seed and more efficient farm implements were introduced. A great deal of attention was also paid to the improvement of livestock breeds. In addition, farmers began to specialize in those agricultural pursuits particularly suited to local conditions. During this early part of the Region's history, grain, forage crops and livestock — but not fruit — were the mainstays of its agriculture.

Timber for the growing shipbuilding and lumbering operations was in ample supply because settlers were cutting down much of the district's forest to provide space for raising livestock and growing crops. The Region's papermaking industry started in 1826 with the erection of Upper Canada's first paper mill at Crooks' Hollow, near Dundas. However, this and other early plants used a rag rather than a wood-based process. By the time the ground wood and sulphite processes were introduced into the Region at Merritton by John Riordon in 1873 and in 1890, respectively, few of the tree species left standing in the Peninsula were suitable for pulping. Much of the pulpwood used even at that time, therefore, appears to have been brought into the area. The Peninsula's paper mills have developed into the flourishing pulp and paper industry of today with several multi-million dollar plants located at St. Catharines and Thorold.

Despite the erratic fluctuations of the international wheat market, the grain growing and flour milling industry expanded to become the Region's principal economic activity. Once the Canal had been completed many large flour mills grouped along its banks from Thorold to Port Dalhousie. By the middle of the nineteenth century, however, their principal source of wheat was western Upper Canada and the American West. The local supply of wheat had become insufficient to meet the demands of the mills, as the Niagara farmers turned to other crops. Thus, by 1880, Port Colborne emerged as the milling centre of the Peninsula, since grains carried by the large lake vessels could be milled there and the flour loaded on small boats for passage through the Canal. These canals, along with the second Welland Canal completed in 1845, enabled the Peninsula to participate to a greater extent in the domestic pattern of trade. The Region's perspective was broadening; it had begun to look beyond its boundaries both for raw materials and markets.

Nevertheless, the flow of trade through the St. Lawrence did not quite match that of the Erie Canal primarily because Canada lost its favoured position in the British market with the repeal of the 'Corn Laws'. In addition, both canal systems were soon overshadowed by the rapidly expanding transportation capacity of the American railways.

Before the loss in trade could cause a major dislocation of the Region's economy, the railway age reached the district. Initially the railroads were constructed to assist water transportation but later they were built in their own right. In 1839 the Erie and Ontario Railway, the first in Upper Canada, was built from Queenston to Chippawa. With its horse-drawn cars the railway overcame the difficulties of the portage. The major railways, however, such as the Great Western Railway from Niagara Falls to Detroit via Hamilton and the Buffalo and Lake Huron Railway from Fort Erie through Brantford to Goderich were not constructed until after the middle of that century. The Great Western which played a very important part in the development of the Region in the 1870's was completed to London in January, 1853. By December of 1855 the gap between Hamilton and Toronto was bridged by the Hamilton and Toronto Railway, which was promptly absorbed by the Great Western. As the railway age progressed, Hamilton became a major railway junction point. The city was chosen as the site for the Great Western Shops that were formally opened in 1859 and produced the first Canadian-made railway rolling stock.

The establishment of rail facilities had a stimulating effect on both manufacturing and agriculture in the Peninsula. It changed the pattern of industrial growth from one of development along the Canal to one of expansion paralleling the railways with concentrations at junction points. To the farmers it provided, for the first time, a rapid means of shipping farm commodities in bulk to the more populous urban markets. Whereas agriculture previously had been limited to the raising of cattle, sheep and hogs and the production of wheat, oats and hay, the advent of the railway made the development of the Region's general farming, fruit and dairy belts of today economically imperative.

Before the railway age was far advanced, however, the American Civil War (1861-1865) intervened and awakened the strong anti-slavery feeling the people of the Peninsula, and Niagara-on-the-Lake in particular, had always shown. In 1793, the Legislature of Upper Canada had passed the first anti-slavery statute in the history of the British Empire. Although this act provided for only a gradual extinction of slavery, the Region became a terminus of the underground railway for slaves fleeing from the Southern States. During the 1830's, about ten per cent of the population of Niagara-on-the-Lake was Negro. In 1837, the people of that Town rioted and freed an escaped slave, Solomon Moseby, from the local jail to prevent his return to the United States. It is apparent that, for more than two generations, there had been a general atmosphere of sympathy with the cause of the Northern States. Thus, Canadians went both from and through the Region to work and fight for the North during the Civil War.

In 1866 after this War had ended, the last military action to take place on the Peninsula occurred. Some thirteen hundred members of the Fenian Brotherhood, an organization of Irish-Americans whose publicized aim was to liberate Ireland from British domination, crossed into Canada near Fort Erie and encamped near Frenchman's Creek. Initially, the Canadian forces which engaged them at Ridgeway were driven back, but when reinforcements arrived, the invaders were soon repulsed.

The Region's railways and canals have played an important role in the development of the area as an international hub of transportation and in the shift of emphasis from the frontier to the interior. As a railway centre with a good harbour, the City of Hamilton received coal from the United States by rail and iron ore from Lake Superior by ship. Favourably situated to serve the Canadian market, Hamilton became the centre of the nation's steel and heavy machinery industry, the "Pittsburgh of Canada".

Various other events are also indicative of this shift. Alanson Harris moved his agricultural implement foundry in 1871 from Beamsville to Brantford, where he eventually met Daniel Massey, who had been operating a flourishing implement business at Newcastle, and founded the Massey-Harris Company. During 1874, the telephone was invented at Brantford by Alexander Graham Bell. Later, in 1879, Adelaide Hunter Hoodless, who was born near St. George, inaugurated the first Women's Institute for rural women at Stoney Creek which later spread across Canada and to many parts of the world.

The use of Niagara Falls to generate electricity, however, modified this pattern of development and enabled the early centres of activity to continue to play an active part in the life of the Region. The hydro-electric potential of the Escarpment on the Canadian side was utilized first at Niagara Falls itself in 1892 and then in 1898 at DeCew Falls, near St. Catharines. During the first quarter of the twentieth century, The Hydro-Electric Power Commission of Ontario under the able leadership of Sir Adam Beck undertook the full-scale development of the Escarpment's hydro-electric potential.

The electric power generated at Niagara Falls has made possible the transformation of this tourist centre into an industrial city producing such diversified items as chemicals, abrasives, silverware and food and beverage products. It has also encouraged the establishment of steel, electrical and aircraft parts industries at Fort Erie. Electricity alone, however, could not have brought about the industrial development of the Region. The combination of the Welland Canal, the railways and hydro power was needed to carry the Peninsula along the road toward economic maturity. Power from Niagara, coal by rail and iron via the Canal worked together to make feasible the establishment of an electro-metallurgical and high-grade steel industry at Welland and a light machinery industry at St. Catharines. The presence of the Canal together with Niagara power has attracted a thriving pulp and paper industry to the Thorold - St. Catharines area. The waterway brings pulpwood to the mills and provides the water required for the pulping processes, while electricity drives the machines.

The fact that it is strategically situated on the North American Continent as part of a wedge that extends into the economic heart of the United States has furthered the Peninsula's industrialization as well. Port Colborne attracted a nickel refinery not only because nickel ores from Sudbury are readily available, but because it is a port from which the refined product can be conveniently distributed to the metallurgical centres on the Great Lakes. This applies in part at least to the Region's pulp and paper industry, which has traditionally enjoyed ready access to the newsprint markets of both New York and Chicago. Because of its accessibility, the Niagara Frontier is also the major gateway for the great influx of American tourists into Canada, who bring increasingly significant benefits to the local retail and service industries. Undoubtedly, the Region's splendid Niagara Parks system has added a great deal to this drawing power. The network of parks, historic sites and modern recreational facilities managed by the Niagara Parks Commission, which began on a small scale at the Falls in 1887, now extends the full length of the Niagara River and provides a magnificently appropriate back-drop for the majestic Falls.

Since the turn of the century, increasing emphasis on efficiency and specialization in agriculture has enabled the industry to develop quickly. By taking advantage of the latest scientific discoveries so as to ensure best utilization of climate, soil and topography, the farmers of the Region have established the general farming and dairy belts as well as the famous Fruit Belt. The latter has developed to a level at which it is estimated to account for a quarter of Canada's and one-half of Ontario's output of fruit. Of the total acreage used for growing grapes in Canada, about 80 per cent is located in this area while the proportion is 67 in the case of peaches, 44 for pears, and 36 for sweet cherries.

In recent years, the Region's increasing urbanization has become an important facet of its economic advance. This has included some haphazard industrial and residential growth, generally known as 'urban sprawl', which has used up large portions of the Peninsula's agricultural soils. However, with careful planning and the co-operation of agricultural, industrial and municipal organizations, it should be possible to balance the needs of the various interests involved so that the available land and other resources of the Region are utilized in the most satisfactory and efficient manner.

The Physical Base¹

To properly understand the present pattern of land use of an area it is necessary to consider its geological evolution or physical history. Several hundred million years ago a large basin existed, centred upon the state of Michigan. Concentric strata-rings of varying hardness made up the sides of this basin. As the softer surfaces eroded with weather and time the more resistant strata-rings stood out in the form of ridges one above another forming the basic expression of the Niagara Peninsula still very much in evidence today. There are two of these ridges crossing the area, the Niagara Escarpment which is now visible extending from Niagara Falls as far north as Owen Sound and the lesser known Onondaga Escarpment running from Fort Erie to Hagersville. The intervening lands form vales sloping gently to the south and west.

Gradually river erosion also began to change the simple pattern of this surface profile. Valleys were formed in the Niagara Escarpment at Power Glen and Dundas. Then, about one million years ago there occurred several onslaughts by glaciers. The passage of these glaciers scoured and tore away at the surface, levelling it off and rounding out the valleys. The scoured material was left as a film over the area. With the recession of the glaciers, lakes formed against the front of the ice lobes. These glacial lakes deposited sands, silts, and clays on top of the scoured materials and in many areas hid them completely.

Today, only three glacial features remain visible on the land surface. These are spillways, moraines, and drumlins. Spillways are large drainage channels formed by waters from the melting glacier. The scoured material picked up by the glacier, carried along with it and then dropped by it as it recedes, is called moraine. This morainal deposition provides a rough and tumble topography with the overlay thickest where the glacier stopped longest. Drumlins are large oval hills of glacial drift laid down in groups under the surface of the ice.

On the basis of geological characteristics the area can be subdivided into six principal districts. The most striking of these is the Niagara Escarpment. This feature, which averages about 300 feet in height, has an upper strata composed largely of dolomitic limestone. The resistance of this material has allowed the escarpment to withstand erosion and it retains particular prominence in the vicinity of Hamilton and at Niagara Falls where the spectacular 167 feet vertical drop of the Niagara River occurs. The escarpment is the main physical feature responsible for the Niagara's scenic attraction. It also provides power for industry, stone for building construction, woods and parkland for recreation. It acts as a barrier to transportation, creating the need for the Welland Canal, and as a moderator of climate because of the height of land and the proximity of the Great Lakes.

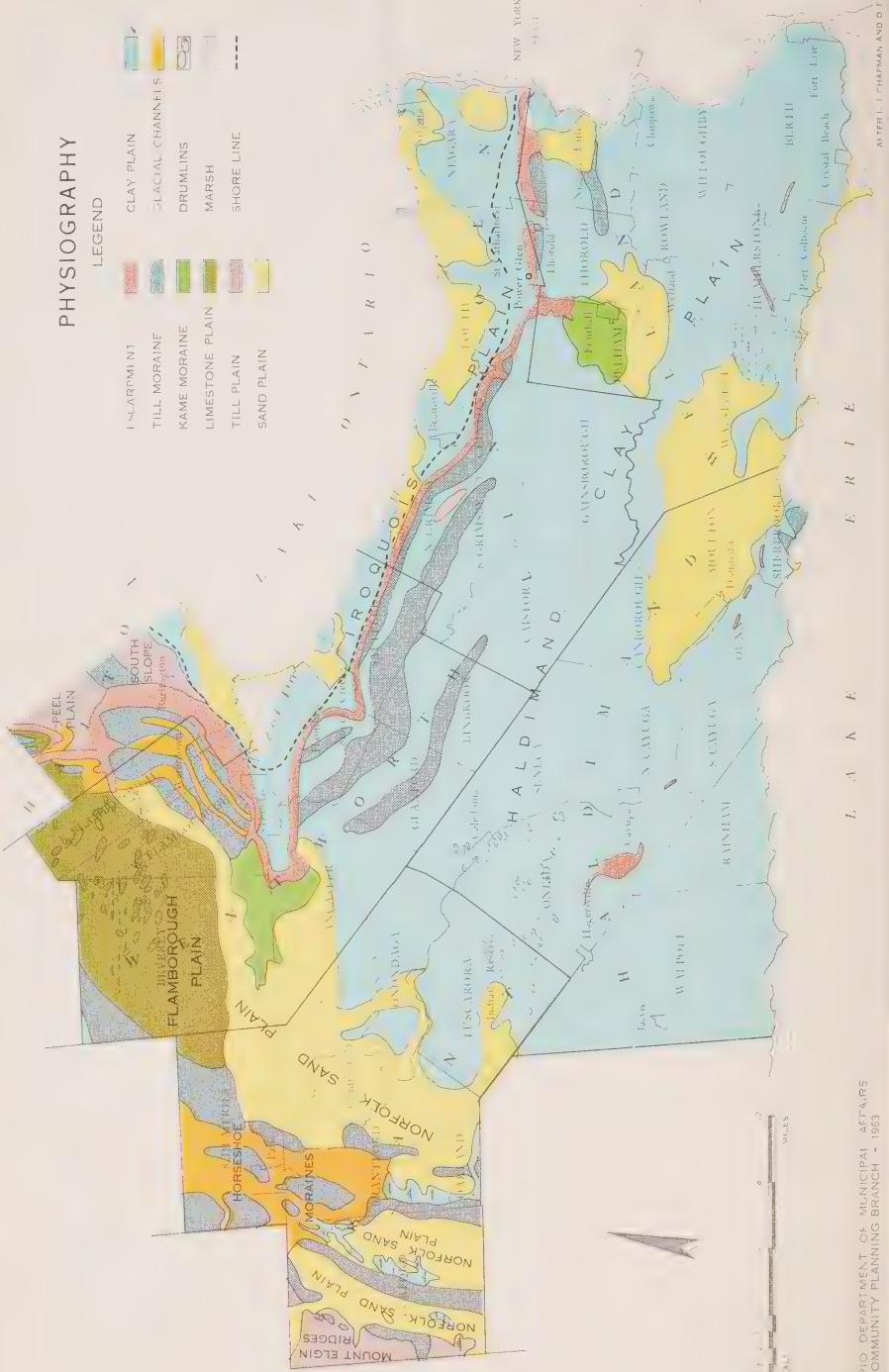
Beneath the brow of the escarpment and along the Lake Ontario shore a second characteristic unit occurs, the Iroquois Plain. During the last stages of the glacier's retreat a glacial lake, Lake Iroquois, inundated the area now surrounding Lake Ontario. Lake Iroquois reached several miles farther inland than the present lake shorelines and between Burlington and Vineland it bordered the escarpment.

¹Prepared by the Department of Municipal Affairs, Community Planning Branch.

PHYSIOGRAPHY

LEGEND

- CLAY PLAIN
- GLACIAL CHANNELS
- DRUMLINS
- KAME MORaine
- LIMESTONE PLAIN
- TILL PLAIN
- SHORE LINE
- SAND PLAIN



Today along the old shoreline there are all the features commonly found bordering water bodies, including beaches, bars and spits. These gravelly beach formations are well drained and are suitable for truck farming and orchards.

The actual plain itself consists of patches of lacustrine sand and clay sediments. The sandy soils, being loosely formed and underlain by clay, soak up groundwater and retain it extremely well. In addition, since the Iroquois Plain has a slight but consistent lakeward slope, the formation of pockets of cold air, which can easily damage crops, is prevented. These conditions are favourable to the growth of many crops but are especially suitable for the cultivation of long-rooted tender fruits such as peaches and cherries.

In the clay loam areas of the Iroquois Plain the soils are tightly compacted and do not provide good water absorption. Although not as versatile as the light sandy soils the clay loams are found suitable for vineyards and this, together with the relatively milder climate, has encouraged the development of wine manufacturing industries.

The Haldimand Clay Plain is the third and the largest district. The soils, of a high clay content, were laid down during the lifetime of the glacial Lake Warren which preceded Lake Iroquois and covered a large part of what is now Southern Ontario. In the depression between the two escarpments these lake sediments reach to a depth of 150 feet. The closely knit heavy clay soils, being difficult to work and poorly drained, do not furnish a very good basis for agriculture. Surface run-off is rapid, but internal water movement is slow. Because of these physical limitations and market demands, the emphasis over most of this land is upon livestock. Hay and pasture with scattered grain is the most common field pattern. Approximately 12 per cent of the area is presently left in forest and wood land.

The Haldimand Clay Plain is not entirely homogeneous, however, and within its boundaries three variations of soil types occur in broadly separate areas. These are associated with light or sandy deposits from local glacial features, they are generally unstratified and their quality varies from place to place. Three moraine strips occur along the edge of the escarpment to the north consisting of loose, well-drained clay loam which supports a productive dairy industry with nearby market associations in addition to both the vineyards and orchards. At the head of the Dundas and Power Glen valleys ice residues left deposits of rich sandy loam which presently produces crops of fruit and grain. Another patch of sandy soil occurs near Dunnville in the form of a delta where the Grand River emptied into a glacial lake. Inconsistent drainage limits the productivity of this area but in general grain and vegetable crops predominate.

The Horseshoe Moraines and Norfolk Sand Plain, the fourth and fifth districts, can be considered together because of their interlocking form. The moraines, consisting of unconsolidated sands, gravels and clays were deposited during lulls in the recession of the glacier. They are rough with variable drainage and interspersed with bog and scrub land. Surrounding these moraines are the sandy loams of the Norfolk Sand Plain which, like those near Dunnville, were deposited as a glacial

lake delta. The better soils of the moraines support livestock, beef and dairy cattle and sheep. Orchards, grains and horticultural crops are common on the better drained soils of the sand plain while one specialty crop, tobacco, also flourishes in dispersed areas to the south due to the low organic content and relative acidity of the sandy loam.

The sixth district is the Flamborough Plain. This is a limestone plain containing a drumlin field. It has a very shallow overburden throughout. In fact it is only upon the drumlins that a reasonable depth of soil is to be found. These drumlin soils are loamy and well drained, however, their steep sides are susceptible to erosion. Due to lack of suitable soils for crops, pasture is emphasized in this area and a large acreage remains in forest. In the northeast of Beverly Township there is a large bog called the Beverly Swamp which typifies the irregular drainage found throughout the Plain.

The remaining areas attain greater significance outside the region itself. In the far west are the Mount Elgin Ridges, morainal ridges made up of good quality clay loam with poorly drained intervals which support pasture. The upper slopes, although subject to erosion, are suitable for grain and hay and in consequence a substantial dairy industry is encouraged which reaches importance farther to the west.

Two areas of clay soils exist in the northeast of the region, the Peel Plain and the South Slope. Separated by a field of moraine they are similar both in topography and function supporting general farming with an emphasis on livestock and, due to the nearby urban markets, a certain amount of truck farming on the better soils.

The mining industry is another facet of the land use pattern that is strongly determined by physical geography. The basic geology of the Niagara Region is similar to that found in the Western Prairies and consists of beds of sedimentary strata which restrict mineral development to the production of fuels and structural materials.

The extraction of structural materials is the most important form of the industry. Sand and gravel deposits are in good supply. Various forms of glacial deposits in their natural condition serve as sources of these substances. Spillways (near Brantford), abandoned beachlines (Burlington) and kame moraines (Fonthill) are all usable. The two escarpments are quarried for building and crushed stone. Along the strip between Lake Ontario and the Niagara Escarpment a brick and tile industry has developed with plants at Hamilton, Burlington, Grimsby and St. Catharines. It is based upon a combination of local clays and underlying bedrock shales, both of which are in good supply. Also along the escarpment there are deposits of dolomite and shale that can be used in the manufacture of rock wool insulation.

Near Lake Erie is a band of calcium limestone being used in the manufacture of portland cement. The plant at Port Colborne is the only one in operation at the

present time. The Salina formation, a layer of dolomite and shale stretching across the region in a ten mile wide strip between Fort Erie and Brantford, contains extensive deposits of gypsum. Two mines are extracting gypsum from this section, one at Caledonia and the other near Hagersville.

Some of the limestones found in both the Niagara and Onondaga escarpments are suitable for the production of lime. Currently, this production is limited to one location, Niagara Falls.

Of the fuels only natural gas is found in any quantity. The formations containing gas are the Silurian age, Medina and Clinton horizons. These formations, although they outcrop on the face of the Niagara Escarpment, attain proper porosity and strata formation near Lake Erie where they lie at depths of between 400 and 800 feet. Exploration in this area has been quite complete and although numerous wells are scattered along a 15-mile coastal strip in Welland and Haldimand counties and over the waters of the lake it is unlikely that new fields will be found in this area.

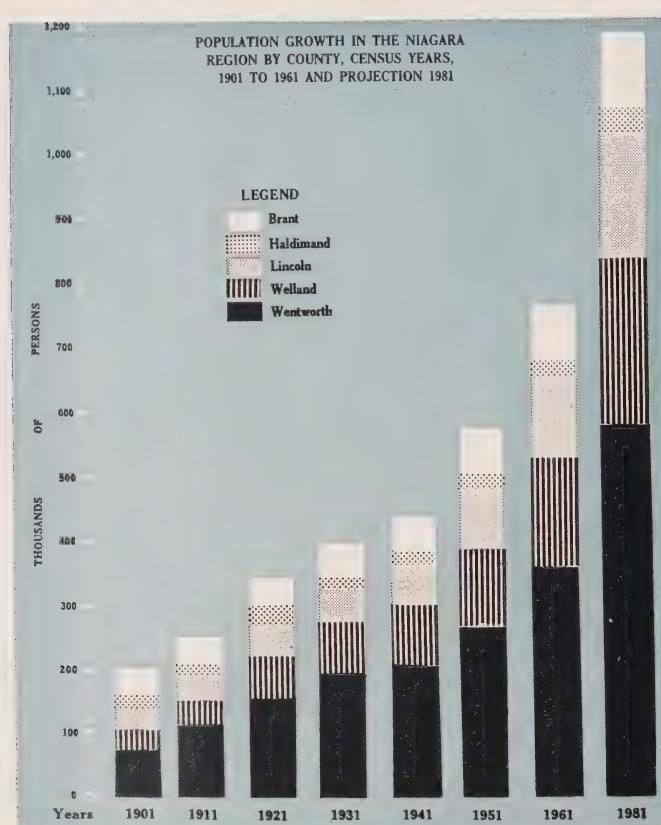
Climate, in addition to topography and soil structure, plays an important role in the determination of land use especially below the Niagara Escarpment. With the exception of the Iroquois Plain between Niagara and Hamilton temperature and precipitation are fairly consistent throughout. In the area known as the Fruit Belt, located largely below the Escarpment, winter temperatures are usually a few degrees warmer and the frost-free season longer. The main reason for this difference is the Escarpment itself and the proximity of Lake Ontario. The Escarpment acts as a barrier to cold winter winds (at Vineland 55 per cent of the annual winds come from a westerly angle), and the modifying presence of Lake Ontario prevents very extreme temperatures, making possible a longer growing season.

Throughout the region as a whole, average annual temperatures run in the order of 46°F., with summer averages of 67°F. and winter averages of about 27°F. The frost-free period varies from 142 days at Brantford to 166 days at Niagara Falls. Precipitation ranges, according to topography, between 27 inches and 35 inches annually. In the Fruit Belt temperatures are generally a few degrees higher and around Vineland the frost-free season is 175 days long. It is these factors of climate, along with the high quality soils that have created the orchard and vineyard belts in this area.

Population

The population of the Niagara Region was 762,288 in 1961 representing slightly more than 12 per cent of the population of the Province of Ontario. With the exception of the Metropolitan Region, the Niagara possesses the largest population among the ten economic regions of Ontario. During the decade between 1951 and 1961, its population increased by 32 per cent. Increasing at a faster pace than the Province as a whole, it is estimated that the population of the Niagara Region will reach 1,183,000 in 1981 — over one and one-half times the present total.

The fastest growth is expected to take place in Wentworth where by 1981 the population will have increased by almost 60 per cent to 572,000. Lincoln and Welland are expected to increase by slightly over 55 per cent each to 197,000 for Lincoln and 256,000 for Welland. Brant and Haldimand are expected to experience the slowest growth rates in these two coming decades: Brant by 41 per cent to 118,000 and Haldimand by 38 per cent to 39,000.



Subsequent to the decline which occurred in the depression of the 1930's, the rate of population growth generally has risen steadily since 1941 throughout all counties in the Region. The only exception was Brant, where the rate slowed down from 29 per cent between 1941 and 1951 to 15 per cent between 1951 and 1961. The most significant rate of increase during recent years occurred in Lincoln County where the population increased by 42 per cent between 1951

and 1961 as compared with 32 per cent for the Region as a whole. The rate of growth in Haldimand County was the slowest in the entire Region although it has improved consistently over the past three decades. The relatively slow growth

evident in this County may be attributed in part to a lower proportion of females of child-bearing age (15 to 44 inclusive) compared to the rest of Niagara.

**PERCENTAGE POPULATION INCREASE, COUNTIES,
NIAGARA REGION, 1931-1941, 1941-1951 AND 1951-1961**

	<u>Niagara Region</u>	<u>Brant</u>	<u>Haldimand</u>	<u>Lincoln</u>	<u>Welland</u>	<u>Wentworth</u>
1931-1941	10.5	6.0	2.0	20.1	13.4	8.8
1941-1951	29.6	28.5	10.5	37.3	31.3	28.7
1951-1961	32.4	15.1	16.8	41.7	33.7	34.9

According to the 1961 Census, slightly less than one-half of the people in the Region live in Wentworth County. The next largest County is Welland with 22 per cent, followed by Lincoln (17 per cent), Brant (11 per cent) and Haldimand (4 per cent). The Census further shows that the larger counties have a higher proportion of their population living in urban centres. Some 90 per cent of the people in Wentworth live in urban centres compared with only one-third in Haldimand. The other counties followed the same general pattern. Welland, Brant and Lincoln have 81, 76 and 75 per cent of their respective populations living in urban centres.

**NUMBER AND PERCENTAGE OF FEMALES OF CHILD-BEARING AGE (15-44)
TO TOTAL POPULATION AND TO FEMALE POPULATION,
COUNTIES, NIAGARA REGION, 1951 AND 1961**

	<u>Total Population</u>	<u>Total Female Population</u>	<u>Females of Child-Bearing Age (15-44)</u>				
			<u>Total</u>	<u>% Total Population</u>	<u>% Total Female Population</u>		
Brant	1951	72,857	36,452	15,987	21.9	43.9	
	1961	83,839	42,155	16,440	19.6	39.0	
Haldimand	1951	24,138	11,856	4,679	19.4	39.5	
	1961	28,197	13,927	5,026	17.8	36.1	
Lincoln	1951	89,366	44,524	20,148	22.5	45.3	
	1961	126,674	63,348	25,989	20.5	41.0	
Welland	1951	123,233	60,390	27,664	22.4	45.8	
	1961	164,741	82,019	34,008	20.6	41.5	
Wentworth	1951	266,083	133,679	61,810	23.2	46.2	
	1961	358,837	180,300	75,624	21.1	41.9	
Total, Niagara Region		575,677	286,901	130,288	22.6	45.4	
		1961	762,288	381,749	157,087	20.6	41.1

There are four major urban centres in the Region that contain about three-quarters of the Region's population. The largest is Metropolitan Hamilton with 395,189 in 1961, followed by St. Catharines urban area (95,577), Brantford urban area (56,741) and Niagara Falls urban area (54,649). Broken down by incorporated cities and towns, there are seven cities and towns in the Region with population over 10,000. By far the largest is Hamilton City, whose population of 273,991 represents more than one-third of the total and which is more than the aggregate population of the other six largest cities and towns in the Region:

NIAGARA REGION

St. Catharines (84,472), Brantford (55,201), Welland (36,079), Niagara Falls (22,351), Port Colborne (14,886) and Dundas (12,912).

The urban population of the Region has generally increased at a faster rate than the rural population during the past decade. The latter declined from 34 per cent of the total population in 1921 to 18 per cent in 1961. During the same period, the entire population in the Region was augmented by 122 per cent while the urban population registered an increase of 175 per cent. Two factors which undoubtedly contributed to the expansion of the urban areas are the migration of rural dwellers to the cities and the settlement of newcomers in urban centres.

POPULATION OF METROPOLITAN AND OTHER MAJOR URBAN AREAS AND COMPONENT PARTS, NIAGARA REGION, 1951 AND 1961

	1951	1961
Hamilton, metropolitan	280,293	395,189
Hamilton, city	224,951	273,991
Ancaster, twp.	4,586	13,338
Beverly, twp.	4,138	5,023
Binbrook, twp.	1,384	2,557
Burlington, town	18,913	47,008
Dundas, town	7,941	12,912
Flamborough E., twp.	2,342	4,334
Flamborough W., twp.	3,925	7,001
Glanford, twp.	1,871	4,714
Saltfleet, twp.	6,973	16,424
Stoney Creek (Town)	1,922	6,043
Waterdown, village	1,347	1,844
St. Catharines	67,303	95,577
St. Catharines, city	59,302	84,472
Thorold, town	6,397	8,633
Thorold, twp. (part)	1,604	2,472
Brantford	47,064	56,741
Brantford, city	46,633	55,201
Brantford, twp. (part)	431	1,540
Niagara Falls	40,899	54,649
Niagara Falls, city	22,874	22,351
Chippawa, village	1,762	3,256
Stamford, twp. (part)	16,263	29,042
Total, Four Centres	435,559	602,156

A major contributing factor to the over-all population increase is the net migration into the Region. Over the last two decades, net migration accounted for 42 per cent of the total population increase. The heavier population influx in percentage terms occurred during the first decade when net migration accounted for 50 per cent of the total population increase, as compared with 37 per cent in the 1951-1961 decade. Although in both decades Wentworth County had the greatest number of incoming migrants, Lincoln County led the list with the highest percentage increase for the two periods. Haldimand's migration figures show a net loss over the first period which was reversed over the second. Only Brant County suffered a net loss in migration between 1951 and 1961.

In the last twenty years, the Region's population of British ethnic stock has declined in relative terms from 74 to 58 per cent. On the other hand, during the same period, the proportion of Germans, Italians and French has roughly doubled rising to 7 per cent, 6 per cent and 5 per cent, respectively. Likewise, the distribu-

**FACTORS CONTRIBUTING TO POPULATION
INCREASE, COUNTIES, NIAGARA REGION,
1941-1951 AND 1951-1961**

	1941-1951			1951-1961		
	Total Population Increase	Natural Increase	Net Migration	Total Population Increase	Natural Increase	Net Migration
A — Burlington						
Brant	16,162	8,117	8,045	10,982	11,786	-804
Wentworth	59,362	28,970	30,392	92,754	55,137	37,617
Sub-total	75,524	37,087	38,437	103,736	66,923	36,813
B — Niagara						
Haldimand	2,284	2,478	-194	4,059	3,860	199
Lincoln	24,300	10,323	13,977	37,308	19,289	18,019
Welland	29,397	16,039	13,358	41,508	27,365	14,143
Sub-total	55,981	28,840	27,141	82,875	50,514	32,361
Total, Niagara Region	131,505	65,927	65,578	186,611	117,437	69,174

Note: Natural increase is births minus deaths.

Net migration is immigration minus emigration.

tion of the population into religious groups shows that the Roman Catholic sector is representing an increasing share of the population as a whole. Between 1941 and 1961, the proportion rose from 19 to 27 per cent. In the same period, the ratios of the other two major religious groups declined: the United Church from 26 to 24 per cent; the Anglican Church from 26 to 20 per cent.

The Census shows that less than one per cent of the Region's population are native Indians. There are about 6,800, most of them (61 per cent) dwelling in the Four Nations Indian Reserve near Brantford. Haldimand and Wentworth have an Indian population of about 1,000 each. Only 6 per cent of the Indian population lives in Lincoln and 3 per cent in Welland.

There has been a sharp decline in marriage rates in the Region during the past ten years. Between 1951 and 1961, the marriage rate decreased from 10 to 7 per 1,000 population. The birth rate fluctuated, rising between 1951 and 1956 from 24.9 to 26.0 per 1,000 then declining to 23.4 per 1,000 by 1961. In the same period, the death rate fell from 9 to 8 per 1,000.

Married persons comprised 48.4 per cent of the population in the Region in 1961, representing slightly more than the proportion of single persons, which stood at 46.5 per cent. Of the remainder, 5 per cent were widowed and 0.4 per cent divorced. In Haldimand County, the proportion of single persons amounting to 48 per cent exceeded the married portion which accounted for 46 per cent.

TOWN OF BURLINGTON

In 1961, the total population of the Town of Burlington was 47,008. Several annexations and boundary alterations involving Burlington, Hamilton and the adjacent territories in the last several years inhibit historical comparisons.¹ While Burlington Town has become a part of Metropolitan Hamilton, it is now mainly a residential suburb. Census figures show that approximately 70 per cent of the Town's population is British. Germans account for five per cent, French for three per cent and Italians for two per cent. About one-third of the total population is affiliated with the United Church, one-fourth with the Anglican Church, and one-fifth with the Roman Catholic Church.

¹See section on Burlington in chapter on Counties and Municipalities for greater details.

Labour Force and Earnings

LABOUR FORCE

The 1961 Census indicated that the labour force of the Niagara Region stood at 284,747 persons, or 37 per cent of the total population. Of these, some 88 per cent are listed as wage and salary earners, while the bulk of the remainder are either self-employed or live off income from investment, unemployment insurance benefits, workmen's compensation and similar sources. Nine out of ten persons in the labour force in Welland and Wentworth Counties are in the wage and salary earners category while the corresponding ratio for Haldimand is only seven out of ten. This is a reflection of the fact that a greater proportion of Haldimand's labour force are self-employed farmers.

LABOUR FORCE¹ IN THE NIAGARA REGION, ALL INDUSTRIES, COUNTIES, 1951 AND 1961

	1951	1961	% Change 1961/1951
Brant	28,763	31,223	8.6
Haldimand	9,039	10,167	12.5
Lincoln	36,268	46,371	27.9
Welland	50,310	58,269	15.8
Wentworth	116,047	138,717	19.5
Total, Niagara Region	240,427	284,747	18.4

¹Excludes a few persons seeking work who have never been employed.

As may be expected, females in the labour force for the whole Region registered a relative increase between 1951 and 1961. Whereas at the beginning of the decade women constituted slightly less than 24 per cent of the total labour force, their proportion rose to 28 per cent by 1961. There are relatively more wage and salary earners among women than men. At the time of the 1961 Census, male wage and salary earners were 87 per cent of the total male labour force while the corresponding figure for females was 90 per cent. This discrepancy is greatest in Haldimand County, where the ratios were 67 per cent for males and 77 per cent for females. This higher proportion of women wage and salary earners may be explained by the fact that relatively more men than women live off investments or are self-employed, such as farmers and fishermen.

Although the manufacturing industries accounted for more jobs than any other industry division in the Region during the past decade, this sector employed a smaller proportion of the labour force in 1961 as compared with 1951. Whereas one-half of the Region's labour force was employed by the manufacturing industries in 1951, by 1961 this division employs only two-fifths of the Region's labour force. While manufacturing in the Province also accounts for more jobs than any other industry division, it is of relatively smaller significance to the total employment picture than in the Niagara Region. In 1951, manufacturing accounted for less than one-third of Ontario's labour force. By 1961 this ratio had declined to 27 per cent.

The Region's agricultural sector has also lost some of its workers to other industries since 1951. This trend is similar to that of the Province as a whole. In 1951 about 7 per cent of the Region's labour force derived their livelihood from agriculture as compared with 5 per cent at present, while the corresponding statistics for Ontario declined from 11 per cent to about 7 per cent. Only in Haldimand County does agriculture claim as much as 24 per cent of the labour force, although this was a decrease from the 32 per cent level in 1951. Incidentally, Haldimand now has as many people employed in agriculture as in manufacturing — the first has declined and the latter increased over the past decade. Agriculture has some significance in the Counties of Brant and Lincoln, where about one-tenth of the labour force are employed in this industry.

This employment decline in both manufacturing and agriculture has been more than offset by the increased employment in the next two largest industry divisions in the Niagara: services and trade. Between 1951 and 1961, the relative share in the labour force of these two activities increased significantly. Employment in the services industries rose from 15 to 19 per cent as a proportion of the labour force and in trade from 13 to 15 per cent. Other industry divisions have experienced no significant change in their relative position over the same period. For the Province, there has been relatively little change in the share of the services industry division. It employed about one-fifth of the labour force in both periods. Employment in the trade industry division in Ontario increased from 14 to 16 per cent of the Province's labour force between 1951 and 1961.

Classified into occupation divisions, one-third of the Region's labour force are listed in the 1961 Census as craftsmen, production process and related workers as compared to about one-quarter of the labour force for the Province as a whole. These include bakers, leather cutters, spinners, weavers, tailors, carpenters, printers, blacksmiths, jewellers, mechanics and bricklayers. As would be expected, a relatively higher proportion of men were employed in this group than women. The second largest occupational division is that of the clerical. About 13 per cent of the Region's total labour force, or 36,644 persons, are included in this group, where the majority are women (62 per cent). These are followed by the service and recreation occupations (11 per cent), professional and technical (9 per cent) and managerial (8 per cent). Other occupational divisions, aggregating 18 per cent of the total labour force, include sales, transportation and communication, farmers and farm workers, miners, quarrymen and related workers. The balance (8 per cent) is composed of labourers not elsewhere specified and those whose occupational division is not specified. Due to changes in the definition of occupational divisions, a strict comparison with the results of previous censuses is not possible.

EARNINGS

Grouped into income brackets, about 58 per cent of the total wage and salary earners in the Niagara Region earned less than \$4,000 for the 12 months prior to June 1, 1961, as compared with 93 per cent ten years earlier. In Haldimand County, 73 per cent fell within that bracket followed by Brant with 70 per cent.

**WAGE AND SALARY EARNERS, GROUPED
BY EARNINGS FOR CENSUS YEARS,
NIAGARA REGION, 1951 AND 1961¹**

	1951		1961	
	No.	%	No.	%
Under \$1,000	31,597	15.0	33,118	13.3
\$1,000-\$1,999	54,043	25.7	28,405	11.4
\$2,000-\$2,999	82,298	39.1	37,604	15.1
\$3,000-\$3,999	28,262	13.4	45,548	18.2
\$4,000-\$5,999	74,302	29.7		
\$6,000-\$9,999 }	9,017	4.3	21,356	8.5
\$10,000+ }			3,142	1.3
Not Stated	5,216	2.5	6,380	2.6
Total Wage and Salary Earners	210,433	100.0	249,857	100.0

¹Twelve-month period prior to June 1.

There were 98,800 wage and salary earners in the five counties earning \$4,000 or more in 1961, representing some 40 per cent of the total wage and salary earners in the Region. The proportion of earners in this category was highest in Welland (43 per cent) followed by Wentworth (41 per cent) where the heavier industries, including primary iron and steel, are located. This represents a decided improvement for the Region as a whole since the 1951 Census when only 9,017 wage and salary earners (or four per cent) were noted as earning \$4,000 or more.

Urban Expansion and Land Use Planning¹

URBAN EXPANSION

The history of urban development in this area is longer and more continuous than in other parts of the Province of Ontario. During the sixteenth and part of the seventeenth centuries the Neutral Indians are believed to have occupied more than forty villages between Sarnia and Rochester, the largest being on the present site of the Town of Niagara at the mouth of the Niagara River.

From this point trails led overland to the most fertile and easily accessible lands of the peninsula along the Lake Ontario and Niagara River shores. During the early period of settlement in the latter part of the eighteenth and early nineteenth centuries hamlets were established at the breaking points or meetings of these trails, at the sites of adjacent forts and at locations where both overland routes and rivers combined to provide sites for mills. By the 1850's there were 81 gristmills, 222 sawmills, and 9 carding and fulling mills in operation and the sites of all the important urban communities of the present day had been established.

In 1871 there were 16 urban municipalities containing 61,744 inhabitants, approximately 35 per cent of the total regional population of 174,635. At the time of the 1961 Census the number of urban municipalities had increased to 24 but due to the rapid growth of a few of these centres the urban population increased nearly tenfold while the rural population increased by only about three-fifths.

While the total regional population increased from 174,635 to 798,640 between 1871 and 1962, the urban population accounted for 613,123 or 77 per cent of this total. In less than a century, the population has thus changed from largely rural to predominantly urban of which more than half, a total of 395,000, is contained in the area of Metropolitan Hamilton. Of the remaining 403,000 persons approximately 200,000, slightly less than one-half, inhabit four cities of more than 20,000 population: St. Catharines, Brantford, Welland and Niagara Falls.

The trend toward increasing concentrations of population around existing urban centres and the spread of urban activities into surrounding areas is reflected to a certain degree in the extension of the boundaries of urban municipalities. During the twelve year period from 1951 to 1962 forty-five separate actions for boundary changes were concluded involving a transfer of approximately 107,000 acres of land to urban jurisdictions. The total area of land in urban municipalities thereby increased by threefold from 36,000 acres to 143,000 acres.

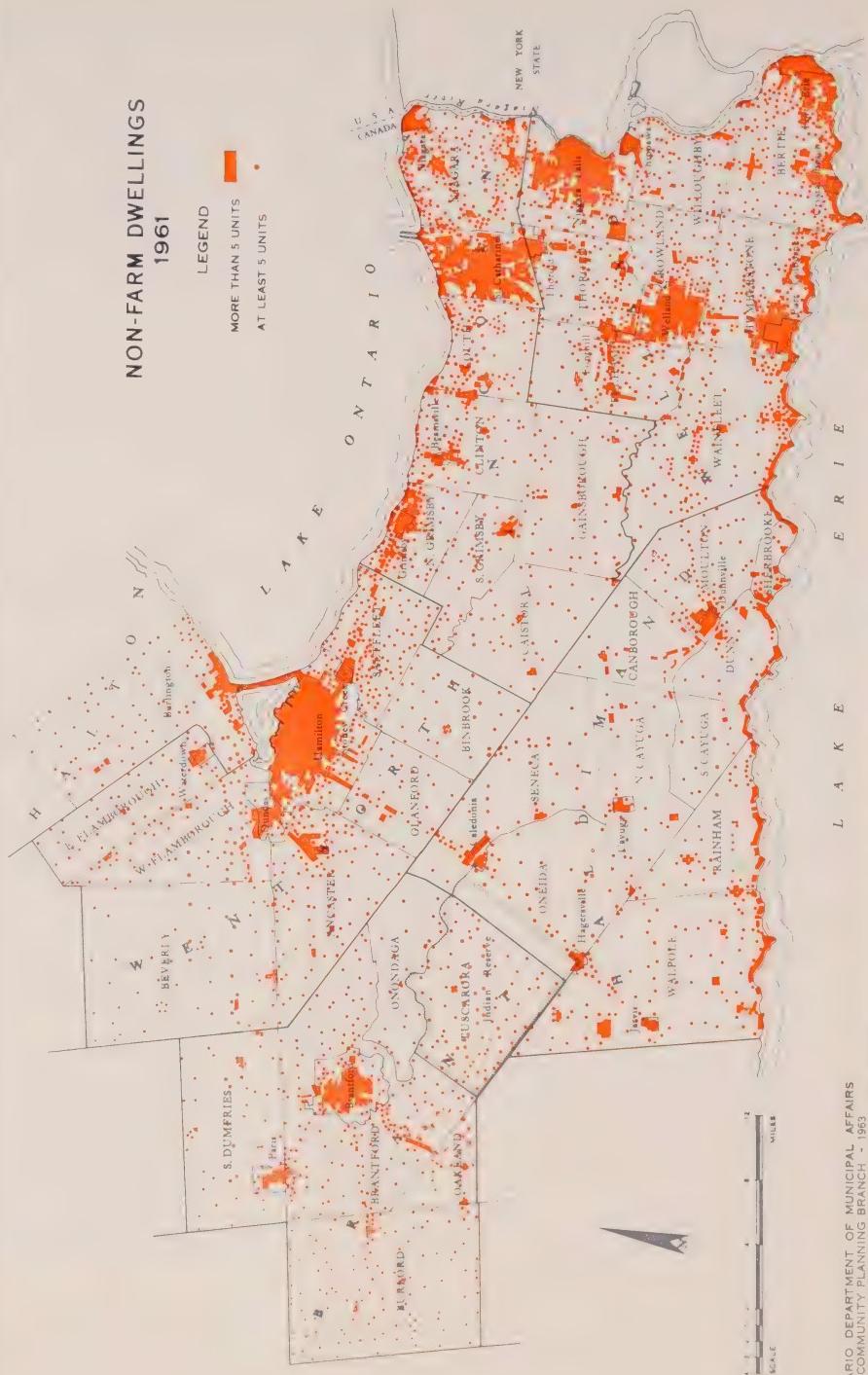
For the same period, 1951-1962, plans of subdivision were approved representing an increase in subdivided land of approximately 11,500 acres. This increase was distributed as follows: Wentworth and the Town of Burlington 43.7 per cent; Lincoln 23 per cent; Welland 22.4 per cent; Brant 9.8 per cent; Haldimand 1.1 per cent.

¹Prepared by the Department of Municipal Affairs, Community Planning Branch.

NON-FARM DWELLINGS
1961

155

MORE THAN 5 UNITS
AT LEAST 5 UNITS



The relative area occupied by various urban functions within municipal boundaries has been established for eight centres in the Niagara Region¹. The average proportion and range of developed area devoted to these uses for the municipalities listed appears as follows: residence 45.7 per cent (34.8 - 67.5); commerce 4.2 per cent (1.6 - 6.7); industry 10.8 per cent (0.8 - 29.3); institutions 6.3 per cent (2.1 - 10.9); parks and public open space 9.4 per cent (1.2 - 22.3); streets and railroads 23.5 per cent (13.8 - 29.8). In addition it appears that most of these municipalities contain within their boundaries an area of rural land or vacant land which equals approximately 42 per cent of the area of land in specific urban use.

LAND USE PLANNING

The aim of every community is to encourage orderly growth. Each community, which may consist of several municipalities, can determine its most desirable pattern and programme of development primarily through the use of The Planning Act of Ontario which provides for the control of the use of the land.

The chief statutory implements available to a municipality under this Act are: the creation of a planning area and the appointment of a planning board; the adoption of an official plan; the passing of a zoning by-law; the passing of a building by-law and the application of a by-law entitled "subdivision control".

Planning areas are defined by the Minister of Municipal Affairs, usually upon application by the municipal council or councils concerned. The extent of these areas is shown in the map of the Planning Areas. In the Niagara Region, the planning areas range in size from the large Hamilton-Wentworth Planning Area, covering 430 square miles and embracing 9 municipalities with a total population of 360,000 persons, to small, single independent planning areas consisting of a single town, village or township.

Planning boards for these planning areas are appointed by local municipal councils, subject to the approval of the Minister in the case of planning areas including more than one municipality. Their purpose is to advise Council on planning matters. A summary of the action taken by the various municipalities to establish and implement planning is shown in the Appendix.

The official plan of a municipality is a carefully devised long-term policy statement to guide community growth and change. It is prepared by the planning board from surveys and analysis of the existing land-uses, topography, people, public facilities, economic base and future needs of the planning area. The plan becomes "official" when it has been adopted by municipal council and approved by the Minister of Municipal Affairs. Of the 61 municipalities shown on the Map of the Planning Areas, 53 are included in planning areas and 25 are presently operating within the terms of an official plan.

The land-use provisions of the official plan are implemented by means of "restricted area" by-laws, also known as zoning by-laws, which set out the manner

¹See Statistical Appendix.

PLANNING AREAS
1962

LEGEND

- SINGLE INDEPENDENT PLANNING AREA
- JOINT PLANNING AREA
MORE THAN ONE MUNICIPALITY
- SUBSIDIARY PLANNING AREA
- A COMPONENT OF THE JOINT PLANNING AREA

NIAGARA REGION

in which land and buildings may be used in each portion of the area. Zoning by-laws are presently in effect in 49 of the 61 municipalities.

Standards for ensuring the structural adequacy and safety of buildings are set out in building by-laws. Fifty-seven municipal councils have passed such by-laws.

Subdivision control, permitting a municipality to control the division and sale of land, has also been applied by 46 municipalities. Within an area of subdivision control — with certain minor exceptions — land cannot be sold without approval and registration of a plan of subdivision. By this means it is possible to review subdivision plans with local municipal and other governmental authorities for conformity with the official plan of the community.

In addition to the above a municipality may, by designating a "Redevelopment Area", undertake measures to implement certain aspects of its official plan in existing built-up areas. In some circumstances financial assistance is available from both the Federal and Provincial Governments, the Ontario Department of Municipal Affairs and Central Mortgage and Housing Corporation. An example of this type of project is the redevelopment of Hamilton's Van Wagner's Beach, presently being carried out, to convert a depressed residential area to a more appropriate recreational use.

All of the Niagara counties have shown both interest and concern in a broad approach to planning problems ranging from the protection of agricultural land to the guidance of urban development. It is recognized that planning problems have no respect for local municipal boundaries. Most of these counties have appointed standing committees to study the role of planning at the county level which is provided for in The Planning Act.

Related to the increased interest in planning at the county level is the establishment of the first county assessment system in the Province of Ontario with a staff at the county level responsible for the compilation of all assessment data in Lincoln County.

A trend toward larger administrative units is also visible in the consolidation of several small municipalities with mutual boundaries into larger urban areas. Examples of the effect of this trend are shown in the following table:

Municipality	Date	Acreage Increase	Population Increase
Burlington, Town	1957-58	from 940 to 53,750	from 9,165 to 32,635
Welland, City	1960-61	from 1,650 to 8,628	from 17,367 to 35,967
St. Catharines, City	1960-61	from 4,153 to 16,000	from 41,211 to 83,941
Niagara Falls, City	1962-63	from 1,935 to 24,083	from 22,192 to 53,288

Agriculture

Since the early days of settlement during the mid-eighteenth century, agriculture in the Niagara Region has been an important sector of the economy. Over the years, the type and quantity of the agricultural products have changed, but the area's soil and climate continue to make agriculture an important source of livelihood for many of the Region's inhabitants. The current value of farm products marketed from the Niagara's farms each year is estimated at approximately \$65 million.

The geological past of the Niagara Peninsula is clearly reflected in its physiographical features. Inundation by warm seas, glaciation and differential erosion have all combined to form the distinctive Niagara Escarpment, with the Haldimand Plain to the south and the Iroquois Plain to the north. The soils, climate and physiography make the Iroquois Plain one of the nation's most important fruit and vegetable growing areas and the Haldimand Plain a grain and dairy farming area.

In 1961, approximately 963,400 acres or 72 per cent of the Region's land area was classified as farm land — about 100,000 acres less than in 1951. The 1961 Census showed that 789,000 acres or 82 per cent of the total, were improved farm land. Fifty-nine per cent of this was devoted to crops and 15 per cent to improved pasture, that is, land that had been cultivated and seeded to pasture for grazing purposes. A small portion — 174,000 acres or 18 per cent — was classified as unimproved land.

In 1951, over 80 per cent of the Region's land area was distributed among its 13,039 farms. By 1961, however, there were 10,940 farms spread over 72 per

CONDITION OF FARM LAND IN THE NIAGARA REGION, 1951 AND 1961

		Area (Acres)	Area as Proportion of Total Farm Land %
Improved Land			
Under Crops	1951	605,064	56.6
	1961	570,084	59.2
Improved Pasture	1951	163,840	15.3
	1961	147,896	15.4
Other Improved Land	1951	86,489	8.1
	1961	71,440	7.4
Total, Improved Land	1951	855,393	80.1
	1961	789,420	81.9
Unimproved Land			
Woodland	1951	98,838	9.3
	1961	84,746	8.8
Other Unimproved Land	1951	114,266	10.7
	1961	89,221	9.3
Total, Unimproved Land	1951	213,104	19.9
	1961	173,967	18.1
Total, Farm Land	1951	1,068,497	100.0
	1961	963,387	100.0

NIAGARA REGION

cent of the Region's total land area. While the total number of farms and the total area of land under farms have fallen slightly since 1951, the average size of farms has increased from 82 to 88 acres. The average area per farm increased in every county in the Region between 1951 and 1961 but, increments were largest in Brant, Haldimand and Welland. This trend to larger farms, which is in keeping with the general trend in Ontario, has been accompanied by a scarcity of farm labour and by farm mechanization. In some instances, these developments have led to the abandonment of farms and to an increase in part-time farmers. Farm management studies indicate, however, that generally larger farms not only give rise to increases in output and production per acre but, in many cases, to a higher return on capital investment as well.

The number of farms are highest in the counties of Lincoln (3,238), Wentworth (2,367) and Haldimand (2,070). These three counties together account for over 70 per cent of the Region's farms. Most of the larger farms are found in Haldimand, Brant and Wentworth which are the most important cattle-rearing counties in the Region, while the smaller farms are located in the fruit-growing counties of Lincoln and Welland. The average farm in Lincoln is the smallest in the Region. Embracing 51 acres, it is less than half the size of those in Haldimand and Brant and only one-third of the average farm in Ontario.

ACREAGE OF COMMERCIAL FARMS, BY COUNTY,
NIAGARA REGION, 1961

	Total Farms		Average Size of Farms (acres)	Commercial Farms	
	No.	Area (acres)		No.	% of Total Farms
Brant	1,771	204,451	115	1,346	76
Haldimand	2,070	269,237	130	1,502	73
Lincoln	3,238	165,853	51	2,128	66
Welland	1,494	125,707	84	845	57
Wentworth	2,367	198,139	84	1,565	66

In 1961, 7,386 farms or approximately 68 per cent of the Region's total were classified as commercial. Commercial farms are defined for Census purposes as farms reporting \$1,200 or more in annual sales. Lincoln had most of these farms while Welland had the smallest number. Over three-quarters of farms in Brant and over 70 per cent in Haldimand were commercial. In the fruit-growing area, commercial farms in the counties of Lincoln and Wentworth accounted for 66 per cent of the total while in Welland the ratio was well over one-half.

The 1961 Census classified 1,285 of Niagara's farms as "part-time" and 1,421 as "residential and other farms" whose value of products sold was less than \$250 per annum. The majority of part-time farms were in Lincoln, Wentworth and Haldimand with 427, 264 and 235, respectively. Approximately three-quarters of the Region's residential farms were in Lincoln, Wentworth and Welland. Twenty-nine per cent of the farms in Lincoln and one-quarter of those in Wentworth are in this group.

In 1961, there were more dairy farms than any other single type of commercial farm in the Region. They accounted for 29 per cent of the total commercial farms; fruit and vegetable farms occupied 27 per cent, and livestock farms 21 per cent.

**COMMERCIAL FARMS CLASSIFIED BY
TYPE OF FARM, NIAGARA REGION,
JUNE 1, 1961**

	Number	Per Cent
Dairy	2,130	28.8
Fruit and Vegetables	1,958	26.5
Livestock	1,565	21.2
Poultry	533	7.2
Mixed Farming	448	6.1
Field Crops	411	5.6
Other*	341	4.6
Total	7,386	100.0

* Includes wheat, small grains, forestry and miscellaneous specialty.

The expansion of farm mechanization in the Niagara Region is one of the striking features of the modern agrarian scene. Almost all farms are supplied with electric power. In 1961, over 85 per cent of the Region's farms were equipped with tractors, 80 per cent had automobiles, 46 per cent electric motors and 18 per cent grain combines. The largest increments occurred in grain combines, motor trucks and electric motors.

**PERCENTAGE OF FARMS WITH FARM MACHINERY AND
ELECTRIC POWER, NIAGARA REGION, 1951 AND 1961**

	Automobiles	Motor Trucks	Tractors	Electric Motors	Grain Combines	Electric Power
1951	70	39	69	31	7	88
1961	80	58	86	46	18	98

Approximately five per cent of the Region's labour force is employed in agriculture, compared to seven per cent in 1951. Most of the workers are engaged in agricultural pursuits in Lincoln, Wentworth and Brant in that order.

LIVESTOCK AND DAIRY FARMING

During the last decade, livestock on farms have displayed noticeable numerical increases but have declined in value. This fall in value is attributed to the lower prices of meat, poultry and dairy produce in 1961 as compared to 1951 because the prices of these farm products which were at a peak in 1951 have levelled off since that time.

Livestock on farms were valued at \$34 million in 1961. Cattle, valued at \$27 million, constituted by far the most important item, followed by swine (\$3 million) and hens and chickens (\$2.5 million).

NIAGARA REGION

VALUE OF LIVESTOCK ON FARMS,
NIAGARA REGION, 1961

Cattle	\$27,118,441
Swine	3,068,849
Hens and Chickens	2,470,150
Turkeys	994,506
Sheep	336,369
Goats	37,620
 TOTAL	 \$34,025,935

While the value of livestock has fallen, the rearing of animals on farms continues to flourish and their numbers have been increasing. There was a 42 per cent increase in the number of hens and chickens between 1951 and 1961 bringing the total to 3.2 million. During the same period, the number of cattle rose by 32 per cent, that of beef cattle was augmented by 136 per cent and the number of milk cattle increased by 11 per cent. The number of swine has increased by ten per cent since 1951.

NUMBER OF LIVESTOCK ON FARMS,
NIAGARA REGION, 1951 AND 1961

	Cattle			Swine	Sheep	Hens and Chickens
	Total	For Milk Purposes	For Beef Purposes			
1951	121,144	80,479	13,501	89,768	16,077	2,217,674
1961	160,474	89,221	31,860	98,660	17,001	3,155,442
% Increase	32	11	136	10	6	42

In recent years, cattle-rearing in the County of Haldimand has assumed increasing importance. Today, Haldimand (the Region's most important cattle-rearing County) has over 30 per cent of the total cattle which are currently valued at \$8 million. The Counties of Brant and Wentworth which account for 24 per cent and 21 per cent, respectively, have reduced their share of the Region's cattle herds but the total number in these two Counties has risen by 30 per cent and 15 per cent, during the past decade.

Although there has been an upsurge in the number of beef cattle particularly in Lincoln, Brant and Wentworth, dairy farming dominates the cattle-rearing scene and continues to make substantial contributions to the Region's farm income. Over 283 million pounds of fluid milk valued at over \$13 million were sold by the farmers to commercial dairies in the Region's three sales areas in 1961. Large quantities of skim milk, fluid cream, chocolate milk and buttermilk are also marketed annually.

Wentworth is the largest producer of swine. In 1961, this County had 30 per cent of the Region's swine while Brant and Haldimand each had 23 per cent. Of the 3 million hens and chickens on the Region's farms, about one-third are reared in Lincoln County, 27 per cent in Wentworth, 15 per cent each in Welland and

Haldimand. About one-third of the sheep in the Region are reared in Haldimand, one-quarter in Brant and one-fifth in Wentworth.

VEGETABLE PRODUCTION

Although the Niagara is suitable for producing all types of vegetables, only asparagus, tomatoes and mushrooms are grown extensively because other vegetables do not mature early enough to receive high prices early in the season. About 11 per cent of the Province's value of vegetable production originates in the Region. In 1961, approximately 3,350 acres produced vegetables valued at \$2.1 million. The acreage of land devoted to vegetables fluctuated from year to year but it has generally declined during the past decade.

Tomatoes, for the fresh market and for processing, highest in total value, account for about one-half of the Region's vegetable production. In 1961, the Niagara Region produced 2,719 acres of tomatoes valued at approximately \$1 million, 632,000 square feet of mushrooms valued at \$821,000 and 624 acres of asparagus valued at \$205,000.

There has been a substantial expansion in the area of greenhouses which increased from 29 to 53 acres since 1951. This type of cultivation is becoming more popular in the Niagara as producers seek to take advantage of higher prices for out of season vegetables.

FIELD CROPS

The farm value of the Region's field crops which is currently estimated at \$20 million has fallen since 1951, but it is 47 per cent higher than the 1946 level. Hay — including clovers, alsike and alfalfa — is the area's most important field crop. Valued at \$6.8 million or one-third of the Region's field crops, hay is grown chiefly in the County of Haldimand — the chief cattle-rearing centre. Over 34 per cent of the total acreage of hay valued at approximately \$2 million was found in Haldimand.

Other important field crops grown in the area are oats, winter wheat, corn (husking and fodder), and potatoes in that order. Of these, corn and potatoes are the only crops which have increased in acreage and farm value during the last decade.

The growing of tobacco on a large scale is confined to the County of Brant. The production of tobacco, which is significant in the Brantford area, has been fairly steady in the past few years. In 1962, 406 farms in the County cultivated 13,955 acres which produced 20 million pounds of tobacco, valued at approximately \$10 million or one-tenth of Ontario's total.

FRUIT PRODUCTION

Fruit-growing became prominent in the Niagara Region during the second half of the nineteenth century. At that time, apples dominated fruit production

in the area. Around 1890, however, when apples from British Columbia and Nova Scotia began to compete with Ontario's apples, fruit farmers switched to peach growing. In 1945, increasing demand for grapes for wine-making led to a rapid increase in grape acreage. Side by side with the increase in the cultivation of peaches and grapes has been the gradual increase in the production of pears, cherries and small fruit.

The importance of the Niagara Region as a fruit-growing area lies not so much in the actual value of fruit produced in the area nor in the number of persons this industry employs. The \$14 million contributed annually by fruit-growing to the Region's economy is far less than the contribution of its manufacturing industries and it is clear that the agricultural sector is no longer a large employer of labour. The importance of the Fruit Belt lies in its value to our economy and should be assessed in terms of:

- I The possibility of growing fruit in alternate areas;
- II The productivity of the fruit-growing industry in terms of its contribution to the Canadian and Provincial markets for fruit; and
- III The extent to which secondary industries depend upon fruit produced in the area and the number of jobs provided by these industries.

I Alternate Fruit-Growing Areas

The Fruit Belt roughly consists of the narrow strip of frost-sheltered land along the south shore of Lake Ontario at the foot of the Niagara Escarpment, plus two smaller areas of sandy soil on the plateau, south of the Escarpment. This Belt is capable of producing a very wide variety of fruit and vegetables but, for our purposes, we shall make a distinction between "tender fruit" and "other fruit". This distinction is important because while apples, plums, pears, sour cherries, small fruit and all types of vegetables may be grown in other areas in the Province, "tender fruit" (apricots, peaches and sweet cherries) can only be successfully grown in "tender fruit areas".

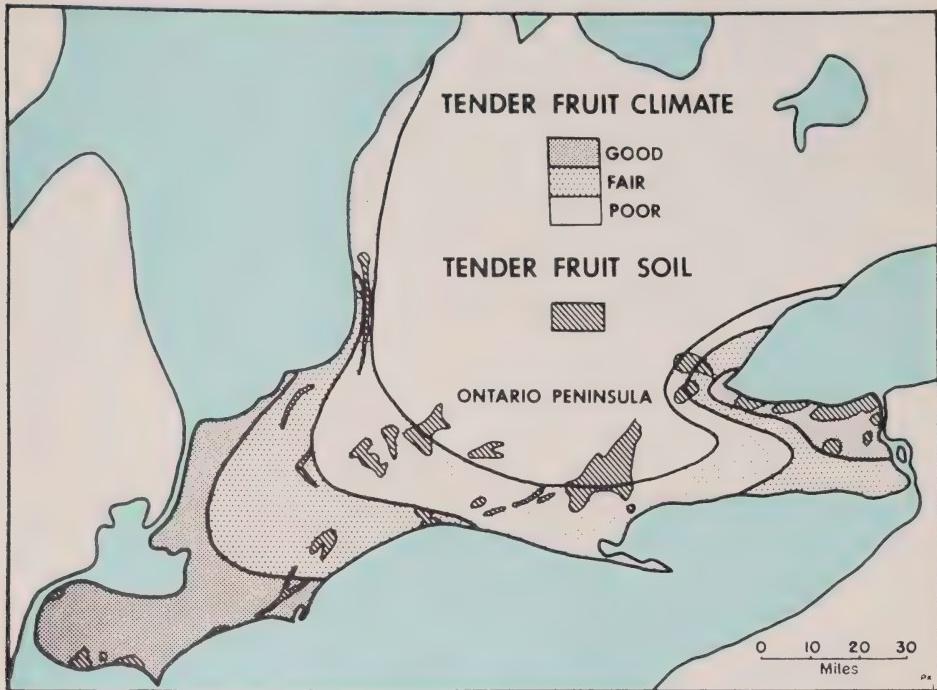
Many areas of the Province have the soil and climate necessary to produce various types of fruit now grown in Niagara. For example, elsewhere in southern Ontario, there are areas which have "tender fruit climate" and others which have good "tender fruit soil". Only the Niagara Fruit Belt, however, is endowed with large areas of "tender fruit soil" which occur in good "tender fruit climate" zones. A study by the Ontario Department of Agriculture in 1954, concluded that:—

"the survey has failed to show another section in southern Ontario with as many advantages as that belt of land directly below the Niagara Escarpment between Queenston and Hamilton. To relocate the 13,000 acres of peach trees in a comparable area outside this fruit belt appears to be an impossibility."¹

There can be little doubt therefore that while alternative areas for the production of "other fruit" could be found in the Province, there are very few alternate areas for "tender fruit" production on a commercial scale.

¹R. G. Mercier and L. J. Chapman, *Peach Climate in Ontario, 1955-56*, Report of the Horticultural Experiment Station and Products Laboratory, Vineland, Ontario Department of Agriculture, Toronto, Canada. Page 17.

TENDER FRUIT CLIMATE AND SOIL IN SOUTHERN ONTARIO



Ralph R. Krueger, Ph.D., *Changing Land-Use Patterns in the Niagara Fruit Belt*, Royal Canadian Institute, No. 67, Vol. XXXII, Part II, Page 63.

The Ontario Research Foundation and the Federal Meteorological Bureau are now engaged in a survey of fruit-growing areas in southern Ontario to ascertain which areas would be most suitable for the growing of "tender fruit" in the event that these lands in the Niagara Fruit Belt are used for other purposes. A report of this research project is expected to be tabled in 1964.

II Productivity of the Fruit Belt

Since 1951, Niagara growers have shipped about 65 million pounds of tree fruits and grapes annually in fresh form to Canadian markets. Processors have purchased another 135 million pounds from these growers. The \$13.8 million received by Niagara's growers in 1961, represented 56 per cent of the fruit produced in Ontario and 27 per cent of Canadian fruit production.

Currently, the Niagara produces almost all of Canada's grapes, over three-quarters of its sour cherries, 67 per cent of its peaches, 44 per cent of its pears and 36 per cent of its sweet cherries. The estimated values of marketed production of Niagara's fruit as percentages of the value of the Provincial fruit production are even more striking. In 1961, the Niagara Region accounted for 99 per cent of the Province's grapes, 89 per cent of its plums, 88 per cent of its sweet cherries, 76 per cent of sour cherries and pears and 75 per cent of Ontario's peaches.



Courtesy — Horticultural Experiment Station, Vineland.

Harvesting Niagara's peaches.

Grapes, peaches and cherries (in this order) are the major components of the total value of fruit marketed from the Region each year. Together, these three fruits contributed \$10.8 million which, in 1961, represented 78 per cent of the total value of fruit produced in Niagara and 45 per cent of the fruit produced in the Province.

A look at the statistics of fruit production reveals a distinct pattern for each fruit. Between 1951 and 1961, peach levels fluctuated but recorded an overall increase of 87 per cent; grapes reached their all-time production peak in 1960 but, in 1961, were 4 per cent less than in 1951; sweet cherries more than doubled, while sour cherries fluctuated violently, hardly revealing a trend; bartlett pears showed erratic fluctuations; other pears displayed an overall increase; plums decreased while prunes and apple production increased. Strawberries and raspberries are grown chiefly as cash crops and together occupy approximately three per cent of the total fruit acreage in the Fruit Belt.

As production varies considerably on an annual basis, there is merit in using figures on acreage under production and the number of fruit trees as guides in assessing trends in the industry. Between 1951 and 1961, there were sporadic declines in the total acreage of commercial fruit in the Niagara which resulted in a net loss of approximately 7,000 acres of land. This loss in acreage occurred

**ESTIMATED VALUE OF MARKETED PRODUCTION OF SELECTED
COMMERCIAL FRUITS, NIAGARA FRUIT BELT,¹ EXPRESSED
AS A PERCENTAGE OF ONTARIO'S, 1958 TO 1961**

	Niagara as % of Ontario			
	1958	1959	1960	1961
Apples	6.9	6.9	6.7	8.1
Cherries, Sweet	88.2	91.0	84.3	88.2
Cherries, Sour	56.4	65.1	62.2	76.4
Grapes	99.3	86.6	99.4	99.3
Peaches	64.5	71.5	72.4	75.4
Pears, Bartlett	64.7	66.8	67.1	69.0
Pears, Other	89.8	89.3	87.2	85.9
Plums	90.1	88.0	80.7	89.0
Prunes	85.1	67.8	56.6	63.2
Raspberries	28.3	21.6	18.9	19.4
Strawberries	36.6	26.6	32.4	32.6
Total, Niagara as % of Ontario	60.1	53.2	52.1	56.2

¹Includes the Fruit and Vegetable Districts (as outlined by the Ontario Department of Agriculture) of Niagara, comprising Lincoln, Welland and East Haldimand Counties, and Burlington, comprising Halton and North Wentworth Counties.

chiefly in "other fruit" — plums, apples and prunes — which fell by 53, 48 and 21 per cent, respectively. Declines in "tender fruit" acreage however, have also been noticeable. Between 1951 and 1961, peach acreage was reduced by 16 per cent and sweet cherries recorded a loss of 4 per cent. Grapes were the only major fruit which gained acreage during this decade, and the gain — 0.1 per cent — was insignificant. Since 1951, therefore, "tender fruit" acreage has been reduced by 2,180 acres and other tree fruit by 5,375 acres. The larger portion of the total loss in acreage occurred between 1951 and 1957 and, since that time, losses in peach acreage have been heavy, while losses in "other fruit" have tapered off.

**NET CHANGE IN ACREAGE OF FRUITS,
NIAGARA FRUIT BELT, 1951 TO 1961**

	Net Change in Acres
Tender Fruit	
Peaches	—2,120
Cherries, Sweet	— 60
Other Fruit	
Grapes	30
Plums and Prunes	—2,425
Pears, Bartlett	— 105
Pears, Other	— 365
Cherries, Sour	— 160
Apples	—2,350

Figures reflecting the number of fruit trees which are for a somewhat wider area and are based on Census figures by counties, show that the total number of fruit trees in the Niagara Region has declined steadily since 1941. The number of peach trees fell by 25 per cent between 1951 and 1961 and is currently lower than

it was in 1941; the number of cherry trees (sweet and sour) decreased by four per cent from 1951; the number of pear trees declined by 10 per cent and the number of apple trees fell by 4 per cent.

Our conclusions relative to the production of fruit may thus be summarized as follows:

(1) "*Tender fruit*"

Peaches which constitute 67 per cent of Canada's production are currently valued at over \$4 million a year and contribute 30 per cent of the total value of fruit produced in the Fruit Belt. *Sweet cherries* which constitute over 35 per cent of the nation's production are currently valued at about \$0.8 million a year and contribute six per cent of the total value of the Fruit Belt's production. There has been a noticeable reduction in peach acreage and, the number of sweet cherry and peach trees have declined although production is increasing. This process cannot continue indefinitely, however, because sooner or later, decreasing acreage and a declining number of trees will outweigh the increasing yield per tree.

(2) *Grapes*

Niagara grapes which are valued at over \$4 million annually and contribute approximately 30 per cent of the value of Niagara's total fruit production, show a slight increase in acreage between 1951 and 1961. The decline in production recorded in 1961 is only temporary because large numbers of vines replanted between 1959 and 1960 are expected to reach bearing age within a few years.

(3) "*Other Fruit Trees*"

Sour cherries contributed \$1.8 million to Niagara's total fruit production in 1961 while *pears*, *plums*, *prunes* and *apples* together contributed \$2.2 million. These fruits, which together account for about 16 per cent of the total production in the Fruit Belt are on the whole losing acreage and declining in number.

III Employment and Secondary Industries Based Upon Niagara Fruit

Studies carried out by the Ontario Department of Agriculture between 1956 and 1958 on production costs in cherries, peaches, pears and grapes concluded that average cost of producing an acre of cherries was \$436, peaches \$368, pears \$232 and grapes \$135. Approximately 56 per cent of the total cost incurred in producing an acre of cherries, 45 per cent for peaches and 44 per cent for pears and grapes was expended on labour requirements for pruning, spraying, cultivation, fertilization and harvesting. If the number of acres under production for these four fruits in 1961 is used, then the total amount expended in the production of

AVERAGE COST OF PRODUCTION PER ACRE

	Cherries		Peaches		Pears		Grapes	
	\$	%	\$	%	\$	%	\$	%
Labour	245	56	164	45	103	44	60	44
Materials	71	16	89	24	41	18	16	12
Power and Machine Use {	33	8	28	7	20	9	15	11
Land Cost	72	17	72	20	53	23	39	29
Other	15	3	15	4	15	6	5	4
Total	436	100	368	100	232	100	135	100

these fruits in 1961 was approximately \$10 million. Of this amount, \$4 million was for growing peaches, \$2.8 million for grapes, \$2 million for cherries and \$1.2 million for pears. The allocation of costs for producing these fruits was as follows:

Labour	\$4,666,975
Materials	1,832,959
Power and Machine Use {	854,143
Land Cost	2,226,111
Other	403,642
Total	\$9,983,830

In 1961, therefore, approximately 47 per cent of the total cost of producing cherries, peaches, pears and grapes were devoted to labour, 22 per cent to land cost, 18 per cent to materials — fertilizer, spray, containers, etc. — and 9 per cent for power and machine use.

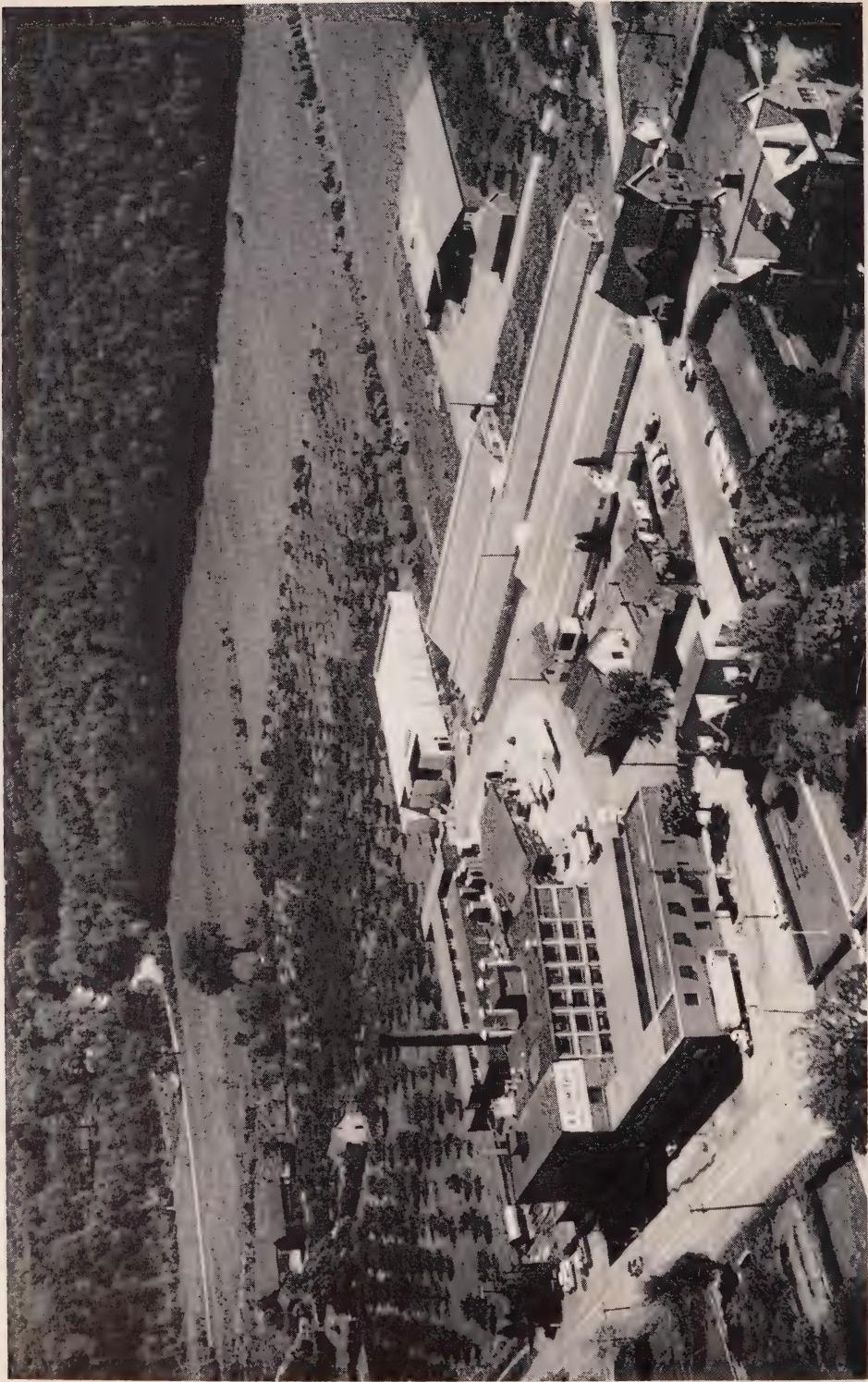
The two major secondary industries dependent upon Niagara crops — the fruit and vegetable preparation industry in the area and Ontario's wine industry — had a total gross selling value of factory shipments of nearly \$60 million in 1960. The fruit and vegetable preparation industry, which is centered in Wentworth, Lincoln and Welland, employed 3,063 persons who earned over \$8 million in wages and salaries in 1960. The selling value of factory shipments for the Region's 36 establishments was over \$45 million in 1960.

Fruit sales to processors have been increasing steadily since 1951 and a larger portion of each crop is being processed over the years. In 1961, an estimated 80 per cent of the commercial production of Niagara's cherries and pears, 50 per cent of its peaches and 35 per cent of its plums and prunes were sold to processors.

Ontario's wine industry which is wholly supplied by Niagara's grape production has expanded within the last decade to meet the rising domestic demand for wine. In 1960, Ontario's production accounted for 86 per cent of Canada's total value of factory shipments which includes wine (new and matured), cocktails, grape concentrate and wine spirits.

Courtesy — E. D. Smith & Sons, Ltd., Winona

Aerial view of fruit processing plant of E. D. Smith & Sons, Limited, Winona.



**ESTIMATED SALES OF NIAGARA FRUIT TO FRESH
AND PROCESSED MARKETS, 1951 AND 1961**

	Niagara Fresh Shipped in Canada	Sales to Processors	Total Niagara Sales
	(millions of pounds)		
Peaches			
1951	42.0	47.5	89.5
1961	51.2	52.0	103.2
% Increase	22	9	15
Pears			
1951	3.9	18.4	22.3
1961	6.6	25.7	32.3
% Increase	69	40	45
Cherries			
1951	5.3	14.1	19.4
1961	5.4	20.0	25.4
% Increase	2	42	31
Grapes			
1951	17.1	36.2	53.3
1961	17.2	63.9	81.1
% Increase	0.6	77	52

In 1951, Ontario's wineries produced 4.2 million gallons of wine. By 1961, however, wine production had increased to over 7 million gallons. Their selling value of factory shipments increased from \$9 million in 1951 to \$16 million in 1961. Seven of the Province's 12 wineries are located in the Niagara Region. Each year since 1951, larger portions of the Peninsula's grape crop has been taken by the wineries. In 1961, approximately 64 million pounds of grapes which represented 79 per cent of the total crop were used by wineries.

It can therefore be concluded that fruit-growing provides employment for a large number of persons directly on the farm as well as indirectly in wineries and fruit processing plants.

PROBLEMS OF THE FRUIT GROWERS

The difficulties faced by the Niagara fruit farmer all revolve around one central problem — low income from fruit production. This central problem arises from various factors which include uncertain markets, low fruit prices, inefficient marketing, poor packaging facilities and urbanization.

Fluctuations in our domestic crops, the imports of processed fruit and the imports of fresh fruit (in and out of season) combine to create uncertainty in the market for fruit. Weather conditions cause violent fluctuations in our annual fruit production. These fluctuations, however, must be regarded as unavoidable occupational hazards. Of the factors not beyond the control of human endeavour, importation is one of the most influential.

The marketing area for Niagara's fresh fruit varies for each fruit but is generally considered to be all points east of the Saskatchewan border.

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**TOTAL IMPORTS OF FRESH FRUIT IN AND OUT OF SEASON
INTO THE NIAGARA MARKETING AREA COMPARED WITH NIAGARA
SALES OF FRESH PEACHES, PEARS, CHERRIES AND GRAPES,
1951 TO 1961**

	Peaches		Pears		Cherries		Grapes	
	Niagara Sales	Imports	Niagara Sales	Imports	Niagara Sales	Imports	Niagara Sales	Imports
	(millions of pounds)							
1951	42.0	9.9	3.9	6.5	5.3	0.9	17.1	65.5
1952	48.1	10.3	2.7	14.2	6.7	2.2	12.5	80.7
1953	46.5	13.7	2.4	12.2	2.7	2.4	10.1	67.6
1954	40.6	14.0	2.0	17.5	3.6	2.1	10.9	83.1
1955	41.0	n.a.	3.8	13.5	8.8	1.6	13.9	91.0
1956	20.0	26.4	4.7	17.1	2.1	2.0	11.4	107.8
1957	36.5	15.1	1.2	22.5	5.2	1.7	11.2	108.5
1958	41.7	20.5	8.5	18.8	6.7	1.1	8.7	115.8
1959	25.7	25.2	3.9	26.6	6.6	1.2	10.3	131.3
1960	32.7	41.5	4.2	21.6	2.8	1.9	35.5	144.9
1961	51.2	31.1	6.6	19.5	5.4	2.1	17.2	137.9
% Increase 1961/51	22	214	69	200	2	133	0.6	111

Shipments of fresh Niagara fruit have been fairly steady since 1951. (The sharp increase in sales of fresh peaches, pears and cherries in 1961 was due to high yields in a good crop year.) During the same period, however, imports into the Niagara market area have increased steadily. Between 1951 and 1961, fresh imports of peaches and pears in and out of season tripled while those of cherries and grapes more than doubled from the 1951 level. An analysis in depth of these figures indicates that when there were low crop yields as in peaches in 1956, imports were unusually high. It also indicates that while fresh imports out of season are increasing, fresh imports in season occupy the major portion of total imports. Most of these fruits, therefore, are imported during the domestic season.

In 1961, fresh imports in season into the Niagara market area as a percentage of total fresh imports into this market area were as follows: peaches 64 per cent; pears 45 per cent; and cherries 33 per cent. Fresh importation of grapes in season usually accounts for more than one-half of total imports of grapes throughout the year but the case for the importation of grapes is a special one because the types of fresh grapes which constitute the major portion of imports are not grown in Canada. These importations are largely for table use and for wine-making in the home.

A Department of Agriculture survey by the Farm Economics and Statistics Branch in 1959 concluded that the per capita consumption of canned fruit in the Niagara market area has increased since the War. At the same time, sales of fruit by domestic producers to processors have increased. However, it is the imports of canned fruit from the United States which have had the greater benefit of our increased demand.

Between 1951 and 1961 the importation of fruits has increased remarkably. Imports of canned peaches (including apricots) totalled 9 million pounds in 1951 while those of canned peaches alone totalled 29 million pounds in 1961. In the same period, canned pears climbed from 0.7 million to 5 million pounds, and "fruits in cans" increased from 3 million to 4 million pounds. Importations of fresh and canned fruits have been increasing not only because the United States producers have a comparatively lower cost of production but also because our fruit output is insufficient to meet our domestic demands.

It is clear, therefore, that while the Niagara fruit farmers are being faced with rising costs and uncertainty about the future and while there are some increases in fruit production in the face of declining acreage, our domestic markets for fresh and canned fruits which have been expanded by an increasing population and by a rising per capita consumption, are being supplied by increasing importations. There exists then a large *potential* demand for additional domestic production of good quality fresh and canned "tender fruit" as well as for "other fruit".

At present, there are tariffs on United States imports but the growers maintain that their effectiveness is limited. They feel that the institution of a system of flexible quotas which considers the total consumption of each fruit as well as the pack in Canada, and then allows for imports to make up the difference, would give adequate protection to both growers and processors.

Urbanization has been recognized as one of the major problems of the fruit farmer. The growth of urban areas in response to increasing industrialization and a growing population have led to the expansion in the areas of cities and towns. This trend is not expected to decline because by 1981, the Region's estimated population will be twice the existing number and the larger portion of these persons are expected to be urban dwellers. This type of urban expansion has utilized some of the fruit land but the real problem of urbanization has been caused in large measure by subdivisions and the erection of individual houses across the Fruit Belt.

CONCLUSION

Any efforts aimed at arresting the decline in the Niagara fruit lands must entail in the first place measures which will ensure the fruit farmer a reasonable livelihood from his operations. To some of the problems practical solutions are feasible; others present many and complicated difficulties, particularly the problem of urbanization.

Statistics on the production of fruits and the dependent secondary industries have shown that the Fruit Belt's contribution to the Provincial economy is substantial. They also show a decline in total fruit acreage as well as in "tender fruit" area. This decline is further illustrated by the section below on The Niagara Fruit Lands which was prepared by the Department of Municipal Affairs.

These findings reveal that the average rate of "tender fruit" land converted between 1934 and 1954 was 80 acres per annum and that it was 320 acres per

annum between 1955 and 1958. Should the rate of conversion as it prevailed in recent years be accelerated, we can expect that within a few decades, the "tender fruit" areas will have disappeared from the Niagara scene.

It is not necessary, however, for the events expressed by this pessimistic view of the future of the Fruit Belt to run their course. There appears to be ample room for urban and industrial growth as well as for increased production of fruit on the Fruit Belt. The pattern of urbanization in the Peninsula has to a large extent been of the haphazard, low-density type. This kind of "urban sprawl" might be channelled into an orderly and compact urban development which would not only save the fruit lands but also be advantageous to both urban and rural municipalities. Planned development of this nature cannot, however, be successfully administered solely at municipal level. This type of planned development requires that some planning organization be given statutory authority to devise and implement a regional land-use program on a long-term basis.

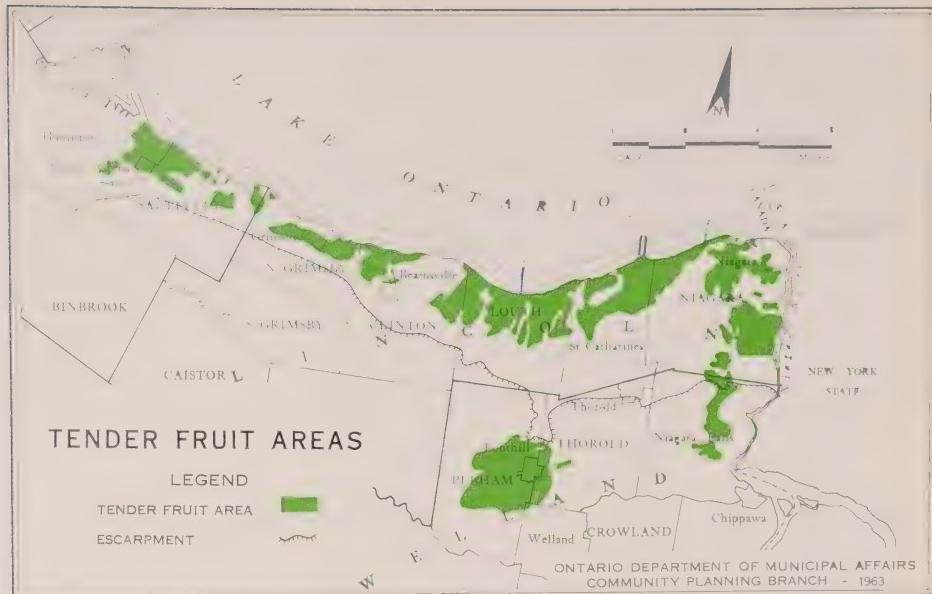
THE NIAGARA FRUIT LANDS¹

The Niagara Peninsula, due to natural advantages of climate and soil, contains one of Canada's most productive and versatile "fruit belts". Although many areas of Canada are suitable for a very limited number of fruit types, here the soils and climate support a wide range. Most of the fruit that can be grown is contained in the following list, shown in order of hardiness from most delicate to most robust: apricots, peaches, sweet cherries, grapes, plums, pears, sour cherries, small fruit (like strawberries, raspberries), and apples. Under present market conditions all of these, except apricots, are grown commercially in varying amounts. The bulk of the crop is composed of peaches and grapes.

Because peaches and sweet cherries are extremely delicate they are called "tender fruit". Locations having the necessary soil and climate characteristics for peaches and sweet cherries are known as "tender fruit" areas. They exist in limited quantity in the Niagara Peninsula, particularly along the shore of Lake Ontario. Other parts of the area are also capable of producing fruit but with the significant difference that although all fruit can be grown well on the "tender fruit" areas, it is very difficult to grow peaches and sweet cherries in the "other fruit" areas.

The map below shows the "tender fruit" areas. It does not show the "other fruit" areas, whose limits are somewhat indefinite, although in general they are located on the fringe of the "tender fruit" areas. The two different kinds of area together are known as the Niagara Fruit Belt. The Fruit Belt roughly consists of the strip of frost-sheltered land along the south shore of Lake Ontario at the foot of the Niagara Escarpment, plus two smaller areas of sandy soil on the plateau of the Escarpment. It is entirely contained in the townships of Saltfleet, North Grimsby, Clinton, Louth, Niagara, Pelham and Thorold and the cities of Hamilton, St. Catharines, and Niagara Falls.

¹Prepared by the Department of Municipal Affairs, Community Planning Branch.



The "tender fruit" areas constitute about 41,000 acres. About 15,000 acres or 37 per cent of this area had been converted to non-agricultural uses (e.g. housing, industry, commerce, highways, and railways) or approved for sub-division by the end of 1962. This leaves approximately 26,000 acres ostensibly still available for fruit farming in the "tender fruit" areas.

In 1958 a survey of the original 35,000 acres of the "tender fruit" area lying within Lincoln and Welland counties was undertaken. (This constitutes all of the "tender fruit" areas with the exception of Saltfleet Township which lies in Wentworth County.) It was found that more than one-third (13,000 acres) was not in agricultural use. Approximately 10,000 acres had been converted to other uses prior to 1934 and nearly 3,000 acres in the 24 years since then.

URBAN INCREASE ON THE TENDER FRUIT AREAS, 1934 TO 1958

<u>Township</u>	<u>Urban Increase on Tender Fruit Areas (acres)</u>	<u>Total Urban Increase (acres)</u>	<u>Urban Increase on Tender Fruit Areas as a Percentage of Total Urban Increase (%)</u>
North Grimsby	187	308	61
Clinton	73	314	23
Louth	198	395	50
Grantham	1,556	3,429	45
Niagara	209	494	42
Stamford	542	2,361	23
Thorold	26	1,156	2
Pelham	160	493	33
Total Area	2,951	8,950	33

Within the municipalities included in the 1958 study, an internal re-arrangement of land use was also observed during the period 1954 to 1958. The results of these changes may be seen in the Table below.

CHANGING LAND USE, 1954 TO 1958, IN THE TOWNSHIPS OF
NORTH GRIMSBY, CLINTON, LOUTH, GRANTHAM, NIAGARA,
STAMFORD, PELHAM AND THOROLD

	TO	(acres)			All
FROM		(a)	Vineyard (b)	Urban (c)	Land Uses (a+b+c+d)
Orchard	—	258	650	1,197
Vineyard	346	—	209	888
Urban	0	0	—	0
Other	2,078	2,411	1,291	—
All Land Uses	2,424	2,669	2,150	2,085
Net	319	1,226	2,150	—3,695
					0

Note: "Other" includes all land uses not specifically mentioned in the table (i.e. small fruit, grain, hay, pasture, woodlands, idle lands, gravel pits, etc.).

To determine from the Table above how much of a given land use category had been replaced by another, read horizontally, from left to right. For example, naturally there was no replacement of *Orchard* by *Orchard*; *Orchard* was replaced by 258 acres of *Vineyard*, 650 acres of *Urban*, and 1,197 acres of *Other*. In total, 2,105 acres of land used for *Orchard* in 1954 were replaced by *Vineyards*, *Urban* and *Other* land uses in the period 1954 to 1958. To determine from the area which a given land use category has gained from other categories of land use, read vertically, from top down. For example, *Orchard* did not replace *Orchard*; *Orchard* replaced 346 acres of *Vineyard*, nil acres of *Urban* and 2,078 acres of *Other*. In total, 2,424 acres of land used for purposes other than *Orchard* in 1954 were replaced by *Orchard* in the period 1954 to 1958.

The final result of these two processes shows a net increase for *Orchard* of 319 acres (2,424 minus 2,105 acres).

The most significant aspect of this table showed that between 1954 and 1958 there was no reduction in the acreage of land being cultivated for fruit production. This is due to land being converted from low-yield crops, woodlands and pastures to high-yield fruit crops faster than fruit land was being lost to urban and other non-agricultural uses.

It is unlikely that this short range trend can continue, or has continued, because among other factors the total amount of "tender fruit" area available for agriculture is gradually being reduced. In particular, large areas of "tender fruit" soil are being provided with urban services and are thus potentially available for urban development.

Mining, Fishing and Forestry

MINING

The Niagara Region is Ontario's exclusive producer of gypsum and peat. The Region's mining production in 1960 was valued at \$20,447,617. More than four-fifths of the mineral wealth of the Province consists of metallic minerals, of which the Niagara Region has no share. Of the other three major categories, non-metallics, fuels and structural materials, the Region's percentage in terms of dollar value is 5, 4 and 14, respectively, of Ontario's total output of these minerals.

MINERALS PRODUCED IN THE NIAGARA REGION BY VALUE AND PERCENTAGE TO ONTARIO, 1960

	Niagara Region (\$000's)	Ontario (\$000's)	Niagara Region as % of Ontario
Total Value	20,448	983,104	2.1
Non-Metallic Minerals Category	1,248	25,257	4.9
Gypsum	871	871	100.0
Peat	339	339	100.0
Quartz	38	998	3.8
Fuels Category	409	9,724	4.2
Natural Gas	409	6,574	6.2
Structural Materials Category	18,791	130,320	14.4
Clay Products	2,421	20,191	12.0
Cement	1,537	30,700	5.0
Lime	2,083	12,279	17.0
Sand and Gravel*	4,862	43,930	11.1
Stone			
Limestone*	7,888	18,782	42.0

*Estimated.

In the *non-metallic minerals* category, gypsum has been the major mineral since 1953 in terms of revenue. Its production was steadily rising since 1953 until it reached the peak in 1958 when 425,733 tons valued at slightly over \$1 million were produced — an increase of 27 per cent for volume and 18 per cent for value over 1953. Thereafter, both volume and value of gypsum production declined to 355,603 tons and \$871,408 in 1960. However, in the face of inevitable depletion, the recent expansion program of the Domtar Construction Materials Ltd. strikes an optimistic note in the future demand for gypsum for construction. Second in this category comes peat, whose rise in production was more spectacular. Between 1953 and 1960, the production of peat jumped more than ten times from 1,319 tons to 13,566 tons, while in terms of value, the corresponding rise was six times — from \$52,535 to \$338,614. Despite some fluctuations in production in the earlier years, the pattern that emerges since 1956 indicates steady increase. The 1960 production of 11,866 tons of quartz was valued at \$37,890, or three per cent of the Region's non-metallic minerals production. This represented four per cent of the value of quartz produced in the Province.

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In the category *fuels*, only natural gas is produced in the Region, mainly in and around the counties of Haldimand and Welland. In 1960, over one billion cubic feet of natural gas valued at \$408,481, were extracted from the Region's resources. This represented a decline of 47 per cent from the \$771,736 produced in 1953. Annual fluctuations for both volume and value of the Region's natural gas output for the past several years reveal a general downward pattern that is symptomatic of gradual depletion. In 1961, the land gas resources accounted for a small portion of the 1.6 billion cubic feet of natural gas produced in the Niagara Region. By 1962, gas produced from new lake pools off the Haldimand shore amounted to 766 million cubic feet. Natural gas production from submarine fields is expected to increase.

Structural materials valued at \$18.8 million which the Region produced in 1960 represented some 14 per cent of all structural materials produced by the Province, yet for the Region it represented over nine-tenths of the value of its mineral output. This category included limestone (\$7.9 million), sand and gravel (\$4.9 million), clay products (\$2.4 million), lime (\$2.1 million) and cement (\$1.5 million). Although the aggregate value of all minerals was 12 per cent below the 1958 peak, structural materials represented an increase of 33 per cent over 1953 when the total value was \$14.1 million.

In 1961, there were 475 persons listed in the Census as being "miners, quarrymen and related workers" in the whole Region. As an industry, mining retained its relative position between 1951 and 1961. In both years it offered employment to some 0.3 per cent of the labour force — 747 in 1951 and 931 in 1961.

FISHING

Fishing in the Niagara Region does not play a significant part in the Region's economy. Commercial fish landings in 1961 — some 3,691,000 lbs. — amounted to little over \$300,000. Compared with 1952, the volume of landings in the Region increased about 29 per cent, but the aggregate value declined almost 50 per cent from \$596,600 in 1952. This is due to the fact that less valuable species are assuming a larger proportion of the total catch. For instance, almost one-half of all fish landed in 1952 was blue pickerel while in 1961 about two-thirds was perch.

Haldimand County is by far the largest contributor to the Region's fishing industry. In 1961 it accounted for 3,575,000 lbs. or about 97 per cent of all commercial landings in the Region. Lake Erie provides most of the catch in the County.

The catch in Wentworth County amounted to some 79,000 lbs. in 1961 valued at \$6,500. Lincoln County contributed about one-half of this amount while Welland's share was negligible.

FORESTRY AND FOREST-BASED INDUSTRIES

Approximately nine per cent of the total land area in the Niagara Region, or some 122,222 acres, is forested. Over three-quarters of this land is productive

while the rest is non-productive. The counties of Haldimand and Wentworth have the largest share of the productive forested land, each County having about a quarter of the total area of productive forests in the Region. Welland County has about one-fifth, Brant and Lincoln each have about one-seventh. The proportion of the forested land to the total land area in each county ranges from 11 per cent in Welland to seven per cent in Lincoln.

**PRODUCTIVE AND NON-PRODUCTIVE FORESTED LAND AS A
PERCENTAGE OF TOTAL LAND AREA IN THE NIAGARA REGION**

	Total Land Area acres	Forested Land				Non-Productive acres	% %
		Total acres	%	Productive acres	%		
A — Burlington							
Brant	269,440	20,832	7.7	15,858	5.9	4,974	1.8
Wentworth	293,120	29,478	10.1	23,268	7.9	6,210	2.1
Sub-total	562,560	50,310	8.9	39,126	7.0	11,184	2.0
B — Niagara							
Haldimand	312,320	29,488	9.4	23,208	7.4	6,280	2.0
Lincoln	212,480	15,252	7.2	13,366	6.3	1,886	0.9
Welland	247,680	27,172	11.0	19,926	8.0	7,246	2.9
Sub-total	772,480	71,912	9.3	56,500	7.3	15,412	2.0
Total, Niagara Region	1,335,040	122,222	9.2	95,626	7.2	26,596	2.0

Note: For the total land area, D.B.S. 1961 Agriculture Census figures have been used. These differ slightly from the figures given by the Ontario Department of Lands and Forests due to difference in the method of data collection.

Hardwoods are predominant in the Region. This type of wood covers from two-thirds to four-fifths of the productive forest land in each county. The white ash, basswood, American beech, black cherry, elm, maple and the red and bur oak are the more important commercial species among the hardwoods. Reproducing type of hardwoods cover one-fifth of the productive forest area. Mixedwoods cover five per cent of the area and are found mainly in Wentworth and Brant Counties. Conifers which account for only 0.3 per cent of the area are found exclusively in Brant (264 acres) and in Wentworth (70 acres).

Of particular interest here are the several pulp and paper mills centred around Thorold. These pulp mills depend for their wood supply mainly upon imports from Northern Ontario and Quebec due to the shortage of suitable local material. Reforestation problems in the Niagara Peninsula are characterized by heavy herbaceous growth, thick poorly drained clay soils, and in numerous locations poorly drained clay soils over limestone, all of which reduce the Region's forestry potential. However, in recent years, increasing use of hardwoods, the predominant type in the Region, has been made possible through technological development. Hardwoods have been used extensively in the eastern part of Ontario for the past few years and in the United States. Although mills in the Region were originally adapted to the use of softwood species such as spruce and balsam fir, Domtar Pulp and Paper Limited, St. Catharines, is currently exploring the use of hardwoods in its mill. The Company expects to increase its demand for hardwoods if

NIAGARA REGION

the experiment proves successful. This may be regarded as a step towards a greater degree of utilization of the local timber resources.

The forest-based industries in the Region, however, are rather substantial. The Region's nine pulp and paper mills employed 3,555 workers in 1960. Total output of these mills was valued at over \$75 million. Twenty-two million dollars of goods were shipped by the ten paper converters, where 1,107 workers were employed. More than 500 persons worked in 13 establishments that shipped almost \$9 million of folding and set-up boxes. Shipments of the sash, door and planing mills (37 establishments employing 309 persons) amounted to over \$4 million, and of the household furniture industry (66 establishments employing 311 persons) \$3 million in 1960.

GEOLOGY LEGEND

DEVONIAN

DELAWARE FORMATION Brown & Buff Limestone
Some Chert

BOIS BLAINE FORMATION Limestone, Dolomite
& Chert, Sandstone

BRISKANY FORMATION Grey Sandstone

SILURIAN

BASS ISLAND FORMATION Cream & Buff Dolomite

SALINA FORMATION Buff to Brown Dolomite &
Limestone; Grey Dolomitic Shale
Anhydrite, Gypsum & Salt

QUELPH FORMATION Cream to Buff Dolomite

LOCKPORT-AMABEL FORMATION Buff & Grey
Dolomite

CLINTON & CATARACT GROUPS White & Grey
Sandstones, Grey Shale & Buff Dolomite

ORDOVICIAN

QUEENSTON FORMATION Red Shale

LEGEND

- | | |
|----------------------------------|-----------|
| CRUDE OIL PIPELINES | |
| Sun-Canadian Pipe Line Company | — · — · — |
| Imperial Oil Company | · · · · · |
| Trans-Northern Pipe Line Company | — — — — |
| Welland Canal | — + — |

- | | |
|------------------------------|---------|
| NATURAL GAS PIPELINES | |
| Trans-Canada | — |
| Others | — |
| Compressor Stations | + + + + |
| Natural Gas Field | ● ● ● ● |

GEOLOGICAL MAP OF NIAGARA REGION SHOWING PIPELINES AND NATURAL GAS PRODUCING AREAS

Prepared By The

ONTARIO DEPARTMENT OF ECONOMICS AND DEVELOPMENT

Scale in Miles



Lake Ontario

ST. CATHARINES

4"

NIAGARA FALLS

WELLAND

PORT COUPE

Lake Erie

Energy

The high degree of industrial and commercial activity which is conducted throughout the Niagara Region and which has its centre in the City of Hamilton, requires the use of large quantities of hydro-electric power, coal, gas, petroleum oils and its products. The Steel Company of Canada alone uses more than 1.9 million tons of coal annually to feed its furnaces. Recently, liquid air (oxygen) has been added to the Region's sources of energy. Hydro-electric power, liquid air and natural gas are produced in the Region but coal, petroleum oils and a portion of its natural gas are imported into the area via water, road, rail and pipelines.

HYDRO-ELECTRIC POWER

Utilization of the Niagara River for motive energy dates back to the French regime when primitive mills operated by water power were erected on both sides of the river. With the generation of hydro-electric power for commercial use on the American side in 1881, however, Niagara became the cradle of hydro-electric power development. This was particularly meaningful for Ontario because the Province lacked large coal deposits but abounded with rich water resources.

The major portion of Ontario's early hydro-electric power development was centred in the Niagara Falls area. The earliest large-scale power development occurred in 1898, when the Dominion Power and Transmission Company began construction on the DeCew Falls Generating Station which took its water supply from the Welland Canal. Other early power developments included the Canadian Niagara Plant which began operations in 1904, the Ontario Power Generating Station in 1905 and the Toronto Power Generating Station in 1906.

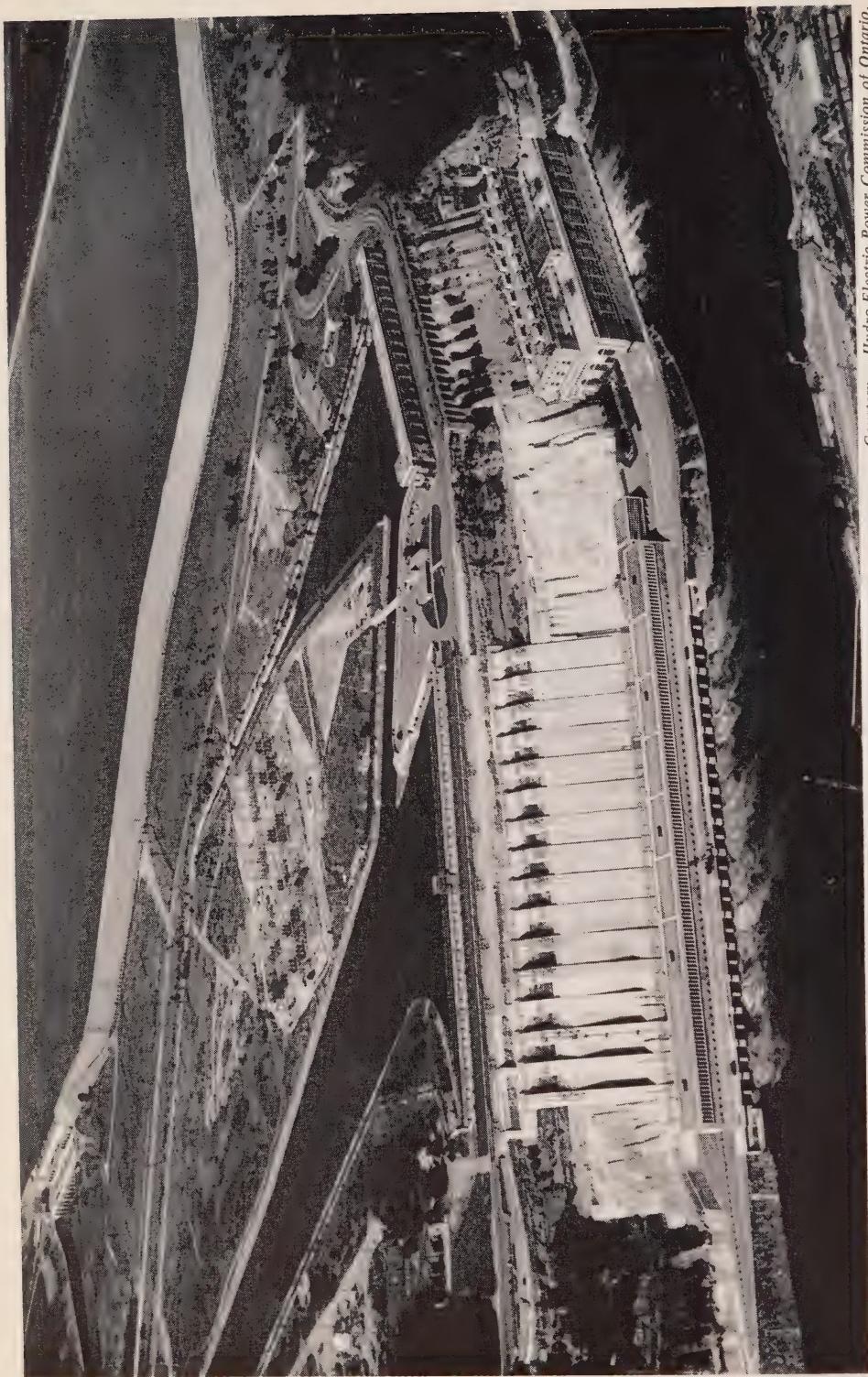
A special act of the Ontario Legislature in 1906 created The Hydro-Electric Power Commission of Ontario. Since that date, large scale hydro-electric power development by private enterprise virtually ceased as the Commission launched a program of purchase and development of sources of generation across the Province. As a sizeable portion of Ontario's water resources are centred in the Niagara Region it was inevitable that some of the Commission's most important work would be conducted there.

The first climax of the Commission's development program was reached in 1922 after the signing of the Boundary Waters Treaty of 1909-10 between the United States and Britain, with the construction of the Queenston-Chippawa Development — later renamed the Sir Adam Beck-Niagara Generating Station No. 1. At the time of its completion in 1922, it was the world's largest hydro-electric plant.

The next phase of the Commission's development program was reached when increased demands for electric energy after World War II posed a serious problem in the Province. This development — the last foreseeable in the Commission's plan to develop power from the Niagara River — culminated in 1954 with the opening of the \$312 million Sir Adam Beck-Niagara Generating Station No. 2. This station now has a total capacity of 1,370,000 kilowatts from 16 conventional units

Courtesy — Hydro-Electric Power Commission of Ontario.

Ontario Hydro's Sir Adam Beck — Niagara Generating Station No. 2 (lower left foreground) and No. 1 (immediately adjacent). In the background is the reservoir for the pumped storage development.



and an associated 170,000-kilowatt pumping-generating station. These developments, however, called for a new Boundary Waters Treaty as the 1909-10 Treaty did not allow Canada to take sufficient water from the Niagara. A significant feature of the new Treaty, which was finally ratified in October, 1950, gives consideration to the aesthetic value of the Falls by ensuring that the water diversion for power purposes is variable while the flows over the Falls are established at certain minima. By comparison, the earlier Treaty permitted a constant water diversion for power with variable flows over the Falls.

HYDRO-ELECTRIC GENERATING STATIONS IN THE NIAGARA REGION, DECEMBER, 1962

The Hydro-Electric Power Commission of Ontario	Installed Capacity (Kilowatts)
Sir Adam Beck-Niagara No. 2 (Including Pumping-Generating Station)	1,400,300
Sir Adam Beck-Niagara No. 1	403,900
Ontario Power	132,500
DeCew Falls No. 2	115,200
Toronto Power	91,800
DeCew Falls No. 1	38,400
Total	2,182,100
 Other	
Canadian Niagara Power Company Ltd.	94,675
St. Lawrence Seaway Authority	12,000

The Hydro-Electric Power Commission of Ontario now operates six hydro-electric generating stations in the Niagara Region, one of which — Sir Adam Beck-Niagara No. 2 — is the largest of its kind in Ontario and the second largest in Canada. The installed capacity of these stations in 1962 totalled almost 2.2 million kilowatts and represented about 43 per cent of the total installed capacity of hydro-electric power in Ontario. Two other hydro-electric generating stations bring Niagara's total installed capacity to 2.3 million kilowatts.

Hydro-electric power has been and continues to be a significant factor in the economic development of the Niagara Region. Many of the area's primary manufacturing establishments located there largely because of the availability of long-term, low-cost electricity. Today, the Commission maintains 5,940 miles of electric lines to supply its 70,700 customers.

The Commission sold 7 million kilowatt-hours of power in the Niagara Region in 1962. This represents an increase of 11 per cent since 1961 and 57 per cent since 1951. The greater portion of the sales occurred in the Counties of Lincoln, Welland and Wentworth. In 1962, the Commission's principal customers were industrial establishments which took 70 per cent, domestic households which bought 14 per cent, and commercial users who purchased six per cent of the total. Increases in the Commission's sales of power since 1951 have been most notable in commercial power (162 per cent), domestic (147 per cent) and street lighting (98 per cent).

HYDRO-ELECTRIC POWER
In The Niagara Region

Lake Ontario



COMMISSION-OWNED GENERATING STATIONS	OTHER GENERATING STATIONS	OTHER COMMISION-OWNED STATIONS	TRANSMISSION LINES
Over 100,000 kw	10,000 to 99,999 kw	Over 100,000 kw	230 kv & over
			115 kv & under
			Transformer
			Distributing

Revenues accruing to the Commission from the sale of hydro-electric power in the Niagara Region in 1962 amounted to \$51 million — more than double the 1951 figure. While the revenue from power sales has declined in some years since 1951, there has been a steady increase since 1959.

Extensive annexations of suburban areas around the cities of Niagara Falls, St. Catharines and Welland have necessitated expansions and modifications in their respective distribution systems. Niagara Falls now has half the primary distribution circuits within its former boundaries underground while a new underground station was established to serve the commercial area which includes the all-electric Seagram Tower.

NATURAL GAS

In scarcely more than half a decade, long-distance pipelines have made natural gas a significant source of energy in the Canadian economy and in the Niagara Region it has become a vital factor in the area's industrial and commercial complex.

Land gas resources, located chiefly in Haldimand and Welland Counties which were at peak production at the turn of the century have been largely depleted and in 1961 accounted for a small portion of the 1.6 billion cubic feet of natural gas produced in the Region. Gas mined from under-water wells in Lake Erie off the shoreline of Haldimand County is becoming increasingly important. In 1962, these wells produced 766 million cubic feet of natural gas. Twenty-nine gas wells were drilled in the Haldimand Lake Erie field in 1962, only two of which were dry. About the same number are expected to be drilled in 1963.

Today, natural gas from Western Canada, via long-distance pipelines, is an important source of supply for the area. The Region is served by a network of gas pipelines of varying widths. The most important is the 20-inch Trans-Canada pipeline which runs from Hamilton to a point midway between Queenston and Niagara-on-the-Lake. Completed in 1954, this pipeline was operated by the Consumers' Gas Company which utilized gas supplied by an American Company until 1958 when natural gas became available from mid-western Canada. The larger companies operating in the Niagara Peninsula are Union Gas Company of Canada, Limited, and Provincial Gas Company, Limited, a subsidiary of the Consumers' Gas Company.

A major innovation in Canadian steel-making is expected to have far-reaching effects on the demand for natural gas in the Niagara. If Canadian steel companies should increase their use of gas in the blast furnaces, future sales of natural gas in the Region would rise sharply.

PETROLEUM OILS AND COAL

Over four million tons of coal, fuel oil, lubricating oils, gasoline and crude petroleum are brought into the Niagara via the Welland Canal and the Region's ports each year: of this amount, more than 3.2 million cargo tons of coal and 657

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thousand cargo tons of fuel oil were unloaded at Niagara's ports in 1961. Approximately 88 per cent of this coal and 54 per cent of the fuel oil was unloaded at Hamilton.

While coal is transported into the Region mainly by water, the main conveyance for oil and oil products is pipelines.

Three products-pipelines which serve the Niagara Region are together capable of supplying Hamilton with one million barrels of oil per day. The Imperial Oil Pipe Line which runs from Sarnia to Toronto has two 6-inch lines which extend from Waterdown to Hamilton. In 1962, these lines delivered 2.2 million barrels of oil products to Hamilton. The Trans-Northern Pipe Line Company's Montreal to Toronto line which ends at Hamilton is a 10-inch line which was completed in 1952. During 1953, its first full year of operation, this Line's through-put at Hamilton was 1.8 million barrels of oil products. By 1962, the Company had increased its through-put at Hamilton to 4.9 million barrels — almost three times the 1953 through-put. Completed in 1953, the Sun-Canadian Pipe Line Company's Sarnia-Toronto line is an 8-inch line capable of supplying Hamilton with 9,000 barrels a day. The principal commodities of these three finished products oil pipelines include motor gasoline, light fuel oil, diesel fuel, stove oil and specialty products.

LIQUID AIR

A recent addition to the Canadian Liquid Air Company's plant at Hamilton will increase the production of liquid air to 1,000 tons a day. This expansion which has been necessitated by the increasing demand for oxygen from the steel industry and other expanding industries and hospitals, makes liquid air an important source of energy in the area.

Industrial use of liquid air entered a new era in North America nine years ago when Dominion Foundries and Steel, Limited, pioneered in the use of the oxygen steel-making furnace. Large amounts of oxygen are also being used by the Steel Company of Canada in Hamilton in their open hearth furnaces.

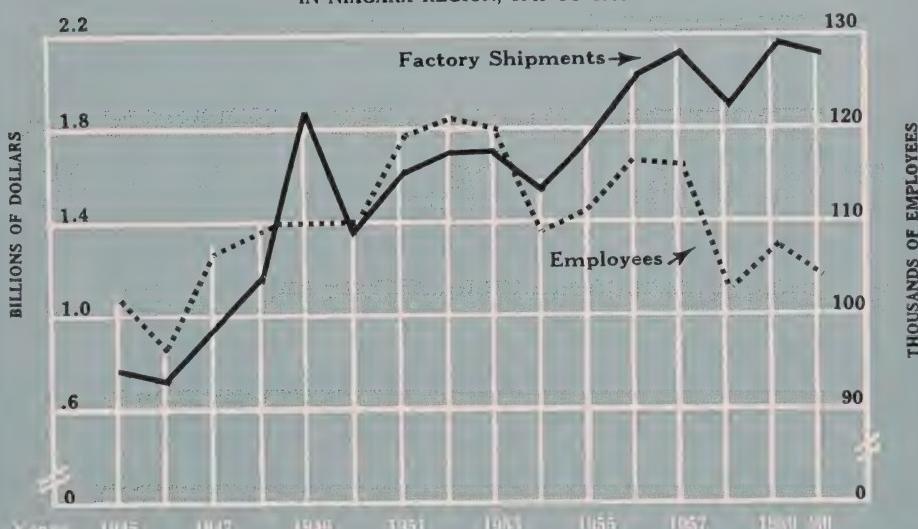
Liquid Air's Hamilton plant produces argon, oxygen and nitrogen in both gaseous and liquid forms and uses vacuum-type railway and highway tank cars to transport them to bulk storage plants located in other centres across Southern Ontario. Union Carbide Canada Limited at Welland is the only other large producer of liquid oxygen and nitrogen but its production is on a smaller scale than Canadian Liquid Air.

Manufacturing

Several factors have contributed to the establishment and growth of manufacturing in the Niagara Region. Embracing the southern arc of "The Golden Horse-shoe", the Region enjoys an important and sometimes determining geographic location in so far as Canadian and other markets are concerned. This location features good climatic conditions, transportation facilities, and, most importantly, proximity to the large urban concentrations of Eastern Canada and the United States.

With an aggregate value of factory shipments of \$2,127 million in 1960, the Niagara is the most important manufacturing region in Ontario after the Metropolitan Region. Significantly, with only one-eighth of the Province's population, it contributes almost one-fifth of its manufacturing output. Nationally, the Region's contribution is even more striking. Its population which represents some four per cent of the Canadian total, contributes roughly nine per cent of the aggregate value of the nation's factory shipments.

MANUFACTURING EMPLOYEES AND
SELLING VALUE OF FACTORY SHIPMENTS
IN NIAGARA REGION, 1945 TO 1960



Since 1951 the Region has experienced a general upward trend in its manufacturing output. The aggregate value of factory shipments in 1951 was \$1,640 million, reaching a peak in 1959 at \$2,176 million. Although it declined slightly in 1960 to \$2,127 million, this figure was still a significant 30 per cent greater than the 1951 total.

The County of Wentworth accounted for more than one-half of the total value of production in the Niagara. Selling value of factory shipments for the County

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in 1960 amounted to \$1,073 million. This represents a 39 per cent increase over the value of shipments in 1951, nine percentage points more than the corresponding increase during the same period for the Region as a whole. Wentworth County's leading position in the Region is due to Hamilton — the industrial capital of the Region — whose factory shipments in 1960 amounted to \$1 billion. This represents about 96 per cent of the County's manufacturing output, thus making Hamilton the third largest industrial centre in Canada after Montreal and Toronto.

Welland County accounts for about 30 per cent of the manufactured output of the Region. The County's aggregate factory shipments amounted to more than \$628 million in 1960, an increase slightly more than 23 per cent over the County's factory shipments total of \$510 million in 1951. Lincoln County's contribution to the Region's aggregate shipments was 10 per cent in 1960, or some \$218 million. St. Catharines was responsible for about one-half of this total. The County's 1960 value of shipments represents a 21 per cent increase over the 1951 total of

PRINCIPAL STATISTICS OF MANUFACTURING INDUSTRIES, NIAGARA REGION, COUNTIES, 1960

	<u>Establishments</u>	<u>Employees</u>	<u>Salaries and Wages</u>	<u>Selling Value of Factory Shipments</u>
	No.	No.	(\$000's)	(\$000's)
Brant	241	11,916	46,017	182,153
Haldimand	54	1,753	5,362	25,451
Lincoln	232	13,532	61,483	217,684
Welland	297	23,209	111,091	628,433
Wentworth	661	53,927	254,229	1,072,839
Total, Niagara Region	1,485	104,337	478,182	2,126,560
Ontario	13,387	603,467	2,585,677	11,685,676
Niagara Region as % of Ontario	11.1	17.3	18.5	18.2

\$179 million. Selling value of factory shipments for Brant County in 1960 amounted to more than \$182 million — or nine per cent of the Regional total. This is about 15 per cent over the amount registered in 1951. The major contributor to the County's manufacturing industry is Brantford, whose factory shipments represented 87 per cent of the County's total. Haldimand's share of the Region's manufactured output is slightly over one per cent. The value of its factory shipments increased from \$20 million in 1951 to about \$25 million in 1960 — an increase of 27 per cent. Slightly less than one-half of the County's output originates in the Town of Dunnville, its largest centre.

The manufacturing enterprises provide for 39 per cent of the total employment in the Region. Although this is a decline from the 49 per cent level of 1951, the industry still retains its position as the Region's largest employer. According to the Census, 110,408 persons were employed in manufacturing in 1961 as compared with 116,562 for 1951. This decline was compensated by the rise in the next two largest industries in the Region: service and trade, both of which rose significantly during the inter-Census decade.

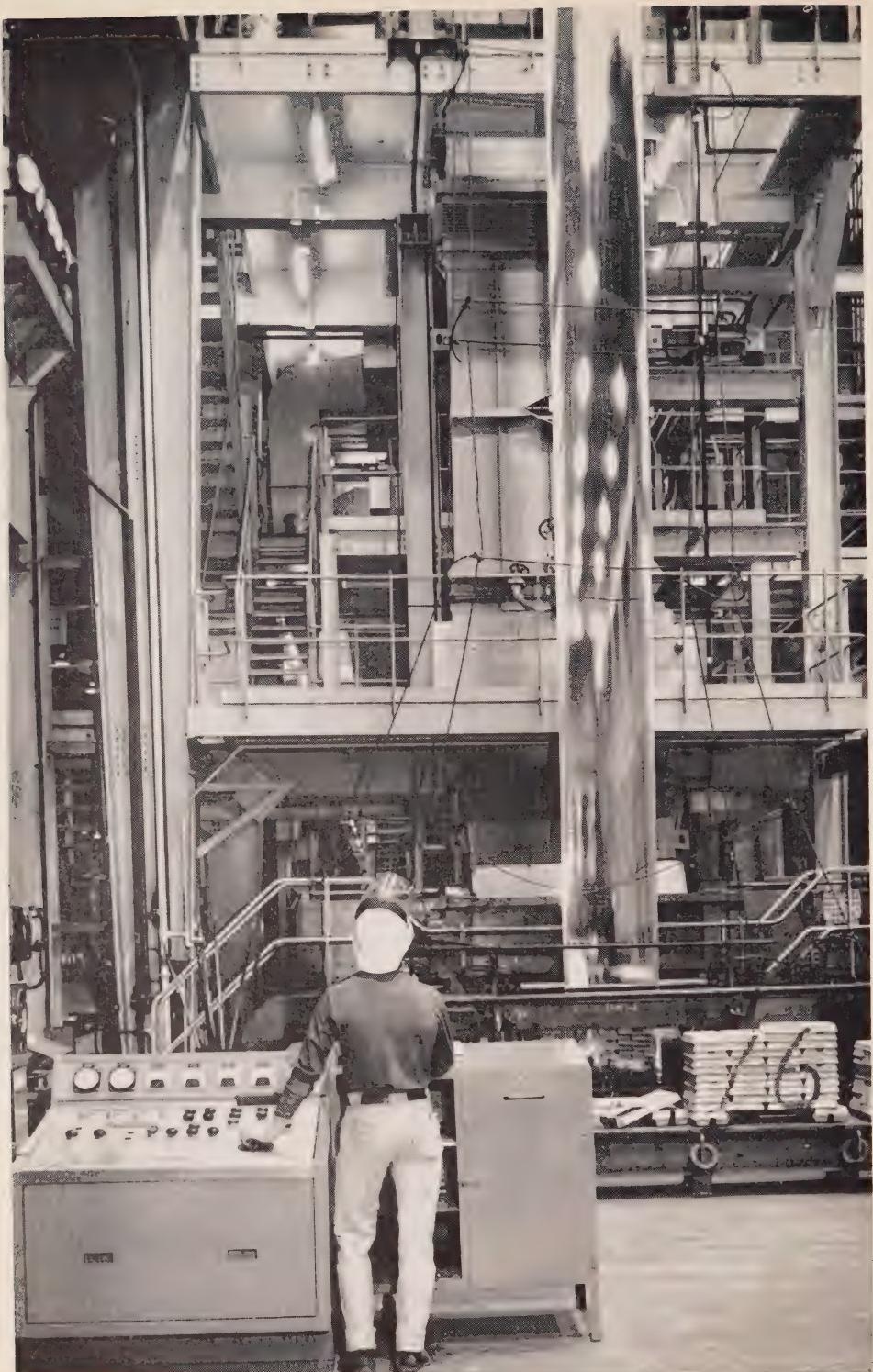
Only Wentworth County had more than 40 per cent of its labour force in 1961 employed in manufacturing. Welland and Brant approach this ratio, followed by Lincoln (36 per cent). Haldimand for the first time has as many persons engaged in the manufacturing industries as in agriculture — 24 per cent of its labour force.

Although manufacturing in the Region is of a highly diversified nature, its most outstanding economic activity is the Primary Metals industrial group. Within this group, an estimated annual output of about \$400 million is contributed by the primary iron and steel mills based mainly in Hamilton. With well over one-half of Canada's iron and steel rated capacity of production, Hamilton's iron and steel output makes it a major producer in North America. The expansion in Canadian steel production is leading Canada towards a relatively high degree of self-sufficiency in this basic industrial product. Whereas Canadian-made steel constituted about two-thirds of the over-all steel consumption in Canada in the early fifties, Canadian steel mills now produce close to 90 per cent of the nation's requirements.

Canada's largest steel producer, The Steel Company of Canada, Ltd., at Hamilton, is a fully integrated steel plant whose output includes billets and slabs, flat rolled products, bars and light structural shapes, pipe, wire, industrial fasteners, fencing products, forgings and coal chemicals. The Company's annual production capacity, which is in excess of three million tons, represents about 40 per cent of the total Canadian potential. From a mere 93,000 tons in 1911, the Company's ingot production attained a record output of 2,779,318 tons in 1962. This figure, which is more than twice the output in 1951, was accompanied by extensive capital outlays amounting to more than \$400 million during the period. Of Stelco's eleven plants, the five in the Niagara Region (four in Hamilton and one in Brantford) accounted for about three-quarters of the total sales of the Company. All of Stelco's primary steel is produced at its Hamilton works. Together with its two subsidiaries, the Canadian Drawn Steel Company, Limited and Frost Steel & Wire Company, Limited, Stelco offers employment to about 13,700 persons in Hamilton. In 1961, the Company installed one of the largest and most modern open-hearth furnaces in the world at its Hamilton works.

The second largest basic iron and steel producer in the Region, Dominion Foundries and Steel, Limited, Hamilton, more than tripled its annual output between 1951 and 1961 from 336,000 net tons of ingots and castings to 1,126,000 net tons, while capital expenditures amounted to about \$172 million for the same period. Dofasco is credited with the introduction of the Linz-Donawitz Oxygen Steelmaking Process to North America in 1954, and has replaced all its former open-hearth operations with oxygen furnaces. The Company employs about 5,000 workers.

Two of the more specialized steel producers are located in Welland: Atlas Steels Company and Page-Hersey Tubes, Limited. The first is Welland's largest employer, with about 2,700 on its payrolls. It is the largest manufacturer of stainless and specialty steel in the Commonwealth, with an annual production



Courtesy — Carey Studio, Hamilton

Zinc coated steel strip rises from the pot in a new Sendzimir Galvanizing unit just put into operation by The Steel Company of Canada, Limited.

capacity of about 210,000 tons. Atlas produces 250 kinds of high-carbon, specialty steel and is advancing its position in the world of technology by extensive research projects. Its recently established subsidiary, Atlas Titanium Limited, also in Welland, is in the process of studying and commercially developing applications for titanium, zirconium and other reactive metals. Atlas Steels' technological leadership has been acknowledged by other countries. In 1961, the Company entered into an agreement with Hindustan Steel Limited to provide know-how and technical training services in connection with the construction and operation of a specialty steel mill in India. The Company has five overseas subsidiaries and associates in England, Italy, Mexico, Holland and Australia, which are primarily engaged in marketing the Company's products abroad.

Page-Hersey Tubes, Limited, is Canada's main supplier of pipe and tubular products. The seven mills at the Welland plant have an annual aggregate capacity of 625,000 tons of pipe and tubing ranging from $\frac{1}{8}$ inch to 16 inches in diameter. Page-Hersey Tubes, Limited, and the Steel Company of Canada are joint owners of Welland Tubes Limited, also situated at Welland. This is a project mill which produces electric fusion welded steel pipe of 20 inches to 36 inches outside diameter. With approximately 1,300 employees, Page-Hersey is Welland's second largest employer.

Other producers within the primary metals group include the H. H. Robertson Co. Limited, Hamilton (operating two subsidiaries: Robertson-Irwin Limited, making metal building products, and Robertsteel (Canada) Limited, making sheets in coil, plates and bars), Slater Steel Industries, Hamilton, Canada Iron Foundries, Limited, Hamilton, and Algoma Steel Corporation's Canadian Furnace Division in Port Colborne, producing pig iron. The Bridge and Tank Company of Canada, Limited, Hamilton, is a major producer of structural steelwork for bridges and building, tanks, etc. The International Nickel Company of Canada, Limited, operates the world's largest nickel refinery in Port Colborne whose output capacity exceeds 200 million pounds of refined nickel annually. About 2,000 workers are employed in this enterprise. In Welland, the Metals and Carbon Division of Union Carbide Canada Limited has ferroalloys, high temperature and corrosion-resistant alloys among its principal products.

Metal Fabricating Industries. This wide base of heavy primary industry in the Region has undoubtedly played a positive role in attracting various other industries into the neighbourhood, especially those requiring iron and steel. Almost one-quarter of Ontario's total output of the Metal Fabricating industries was attributed to the Niagara Region in 1960. There were 242 establishments employing about 12,000 workers who turned out products valued at more than \$193 million in this group in 1960, representing over nine per cent of the Region's total value of factory shipments for that year. This industrial group includes boiler and plate works, fabricated structural metal, hardware and tools, heating equipment, machine shops, wire and wire products, and other metal fabrications. The Region produced 56 per cent of wire and wire products and 21 per cent of structural metal fabrication in the Province in 1960. A major employer in this group is the American Can

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Company of Canada Limited, Hamilton, producing metal cans and containers for processed foods and non-food products.

Among the larger producers of boilers, furnaces, and other heating equipment are Foster Wheeler, Limited, The Anthes-Imperial Company Limited, and Conroy Manufacturing Co. Limited, all located in St. Catharines. Several others throughout the Region produce fabricated steel, storage tanks, chains, chain assemblies and accessories, tire chains for vehicles, hoists, conveyor systems, locks, hardware, wire cloth and screening, and paper machine wire cloth.

Transportation Equipment Industries. Another significant industrial group includes establishments which produce transportation equipment. The group's 29 manufacturing establishments in the Region shipped about \$156 million worth of motor vehicle parts, railroad rolling stock, truck bodies, trailers and other transportation equipment in 1960. More than 8,000 workers were employed by these firms. The McKinnon Industries, Limited, St. Catharines, a subsidiary of General Motors Corporation, is the most diversified automotive operation on the North American Continent, where 5,300 employees at the two St. Catharines plants produce more than 2,800 separate items. McKinnon is the Region's largest employer outside Hamilton. The major producer of railway cars and equipment in the Region is Hamilton's National Steel Car Corporation Limited. The Studebaker of Canada, Limited plant at Hamilton is essentially an assembly operation of imported automotive vehicle parts. A few establishments in the Region specialize in building small boats.

Machinery Industries. The Machinery Industries group included 48 establishments in 1960 which produced goods valued at \$142 million. This group is composed of four industries: agricultural implement industry, miscellaneous machinery and equipment manufacturers, commercial refrigeration and air conditioning equipment manufacturers, and office and store machinery manufacturers. The Niagara's share in the Machinery Industries group of Ontario in 1960 in terms of dollar value of factory shipments was over 29 per cent.

The agricultural implement industry accounts for a substantial portion of the total value of shipments of the entire group. Of the four producers that dominate the Canadian market, three — International Harvester Company of Canada, Limited (Hamilton), Cockshutt Farm Equipment of Canada Limited (Brantford), and John Deere Limited (Welland) — have their main operation in the Region, while the fourth and largest — Massey-Ferguson Limited — operates two units in Brantford and is currently expanding its operations there. Approximately 1,400 are employed at Hamilton's Otis Elevator Company Limited. In Brantford, Hussmann Refrigerator Co. Limited is one of Canada's largest makers of food store equipment. The refrigeration and air conditioning industry rose significantly in the past few years. Between 1957 and 1960, employment increased 13 per cent and shipments 40 per cent. In 1960, there were 742 workers engaged in the Region's seven establishments which shipped refrigeration and air conditioning products valued at \$11 million — about 60 per cent of all

factory shipments by value of Ontario's refrigeration and air conditioning industry. Over 88 per cent of the labour force and 93 per cent of the selling value of factory shipments in this industry in the Region were accounted for by Brant County. Heavy equipment for the pulp and paper mills, construction equipment, vibratory material handling equipment, automation devices and other similar products also feature prominently in the Region's economic picture.

Chemical and Chemical Products Industries. Coming close to the Machinery industrial group in terms of the value of factory shipments, the Chemical and Chemical Products group comprised a total of 73 establishments employing 4,063 workers and shipped goods valued at \$138 million in 1960. One of Canada's major and most diversified chemical producers is Cyanamid of Canada Limited with two plants located in the City of Niagara Falls. The major employer of that City, Cyanamid, continues to expand its facilities and is Canada's sole producer of tetracycline broad spectrum antibiotics. The oldest Canadian manufacturer of agricultural chemicals is Burlington's Niagara Brand Chemicals. Other establishments in this group produce a wide range of chemical products ranging from compressed gases and heavy chemicals used in industry to toilet preparations and floor polishes. It is interesting to note that Hamilton is fast becoming one of the largest oxygen producing centres in North America. With the recent expansion at the Hamilton plant of Canadian Liquid Air Company Limited, the city will increase its oxygen production to 1,000 tons daily. This will be used mainly by the primary steel industry.

Paper and Allied Industries. The Paper Industries group accounted for some \$121 million or about six per cent of the total factory shipments of the Region in 1960. This represented the aggregate for the 36 establishments employing 5,821 workers. About 61 per cent of the workers and 62 per cent of the value of shipments in this group are attributable to the nine pulp and paper mills concentrated mainly around the St. Catharines-Thorold complex. Paper production in this area has been facilitated largely by the water transportation offered by the Welland Canal.

Electrical Products Industries. Electrical products valued at \$117 million or some 15 per cent of the Provincial total were produced by 39 establishments in the Region employing 7,329 in 1960. One-third of these establishments, engaged in the production of electrical industrial equipment, accounted for more than half the employment and the output value. Almost 30 per cent of Ontario's electrical industrial equipment factory shipments in 1960 originated in the Region. Metropolitan Hamilton, in which the larger enterprises are located, was responsible for about three-quarters of all electrical equipment production in the Region. The largest, Canadian Westinghouse Company, Limited, operates five plants in the Region — three in Hamilton producing major appliances, electronic equipment, and heavy and industrial apparatus, one in Brantford making small appliances, radio and television sets, and one in Grimsby assembling electronic guns for television picture tubes. Carbon and graphite electrodes are produced by the Metals and Carbon Division of Union Carbide Canada Limited at Welland. Among the

other items produced in this industrial group were transformers, ventilators, electric hoists, dry cell and storage batteries in addition to various other commodities.

Non-Metallic Mineral Products Industries. The Region's Non-Metallic Minerals group, composed of 91 establishments in 1960 and employing about 5,400 persons, produces abrasives; asbestos; cement; lime, gypsum, and clay products; refractories; and other non-metallic mineral products. About 42 per cent of the total value of factory shipments of the group was produced in Welland County and 37 per cent in Wentworth in 1960.

Abrasives are the most outstanding among non-metallic mineral products. In 1960, over two-thirds of all abrasive shipments in Canada or 87 per cent of Ontario's total was produced by the nine establishments in the Niagara Region. These nine establishments engaged about one-third of the labour force employed in the Non-Metallic Minerals group and shipped 41 per cent of the total selling value of factory shipments. The Norton Company, Chippawa, and Canadian Carborundum Company, Ltd., Niagara Falls, employed about two-thirds of the workers in the Region's abrasives industry.

Textiles, Knitting Mills and Clothing Industries. In recent years the three industrial groups — Textiles, Knitting and Clothing — have grown at a relatively slower pace than the other manufacturing industries. These three groups shipped an aggregate value of goods of about \$83 million in 1960. Most of the component industries in these three groups suffered some decline in the value of their output. The cordage and twine industry was one of the few industries in this group which recorded an increase in the value of its output between 1957 and 1960. Four of the Province's seven cordage and twine establishments were located in the Region in 1960. These accounted for 84 per cent of factory shipments of all cordage and twine produced in the Province in 1960. The Brantford Cordage Company in Brantford is a major supplier of ropes and twine. Harding Carpets Limited, one of the largest manufacturers of carpets in Canada, is also located in Brantford. Between them, they employ the bulk of the textile workers in Brantford. Other products manufactured in the Region include underwear, hosiery, cotton yarn and fabrics, knitting wools, synthetic fibres and fabrics, and foundation garments.

Miscellaneous Manufacturing Industries. This major industrial group includes a wide variety of industries such as manufacturers of scientific and professional equipment, jewellery and silverware, sporting goods and toys, and signs and displays. In the Niagara Region, there were 119 establishments which employed 2,851 workers and shipped goods worth \$34 million in the Miscellaneous Manufacturing group in 1960.

Of this total, about \$6 million was shipped by the eight establishments in the jewellery and silver industry. The two largest producers in this industry — The International Silver Company of Canada, Limited, and Oneida Ltd. — are in Niagara Falls. Together, they employ some 85 per cent of the industry's workers

in the making of sterling and silver-plated as well as stainless steel tableware. The total value of shipments has declined more than 30 per cent in two years, reflecting mainly the larger portion of the domestic market that is being taken by imports, especially in stainless tableware.

Plastic dishes, moulding, parts and other plastic products valued at \$2 million were shipped by the eight plastic fabricators in 1960. This represents a 44 per cent increase over the 1957 shipment figures. About 200 workers are employed in this industry.

The Lightning Fastener Co., Limited, St. Catharines, is a major Canadian supplier of zippers, and employs about 500. In Brantford, A. G. Spalding & Bros. of Canada, Limited is the Region's largest maker of sporting goods.

Foods and Beverages Industries. Situated within the fruit belt, near to densely populated urban centres of the Niagara Region, the well-established Foods and Beverages Industries rank high among the other manufacturing industries of the Region. This group was comprised in 1960 of 350 establishments, or about one-quarter of all establishments in the Region, and employed about one-tenth of all wage earners. The selling value of factory shipments for all Foods and Beverages Industries amounted to \$226 million, or 11 per cent of the total for all manufactured shipments in the Region. Included in this industrial group are meat, fish and dairy products industries, fruit and vegetable canners and preservers, grain mills, bakeries, confectionery manufacturers, soft and alcoholic beverages. Of these secondary industries, two major ones are contingent upon the natural resources of the Region: the fruit and vegetable preparation and the wine industries. The first offered employment to more than 3,000 workers in some 36 establishments and accounted for one-fifth of the value of shipments for all foods and beverages, while the latter, employing only 314 workers in seven establishments in 1960, attained almost \$10 million in the value of its shipments. About 65 per cent of all wine shipments and 21 per cent of all fruit and vegetable preparations shipments in the Province were attributable to the Niagara Region in 1960. The Region's seven wineries are located in the northeastern end of the Peninsula where almost all of Canada's grapes are grown.

Wentworth County had nine of the 17 slaughtering and meat packing establishments in the Region in 1960. Likewise, it had eight of the 11 confectionery producers, and was the leading producer of soft drinks. This clearly indicates the general tendency for such industries to follow population concentrations. In general, every county's share in this group was roughly proportional to its population, except for a somewhat higher production share for the County of Welland, partly due to the fact that the local industry caters to a substantial number of non-resident visitors in Niagara Falls and the neighbouring beaches, and partly because the two largest flour mills in the Region, Maple Leaf Mills Limited and Robin Hood Flour Mills, Limited, are to be found in Port Colborne, Welland County.

The remaining major groups of industry in the Region are: Printing, Publishing and Allied Industries; Wood; Furniture and Fixtures; Leather; Tobacco

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Courtesy — N. E. Slingerland, Niagara Falls.

Wine vats of T. G. Bright & Co. Limited, Niagara Falls.

Products; and Rubber. The 150 establishments engaged in the Printing, Publishing and Allied Industries employed 2,544 persons in 1960 and contributed \$20 million to the total net value of production in the Region. There were 72 establishments listed under the Wood Industries group in the Region in 1960 which included 37 sash, door and planing mill establishments, with factory shipments valued at \$4

million, 12 wooden box manufacturers producing \$2 million, and 15 sawmills producing \$342 thousand. In the Furniture and Fixtures group, 78 establishments shipped products valued at over \$5 million in 1960, while the Region's 15 others engaged in leather products produced shipments valued at slightly less than \$5 million. There is one major manufacturer of rubber products in the Region, the General Tire and Rubber Company of Canada Limited, Welland, giving employment to some 375 workers. In the Tobacco group, the only manufacturer is The Tuckett Tobacco Company, Limited, Hamilton, employing some 480 workers.

The Region's confidence in the future might best be illustrated by the magnitude of capital expenditures incurred for purposes of expansion or establishing new industries. The Steel Company of Canada, Limited topped the list with \$400 million between 1951 and 1962. Record expenditures amounting to \$67 million are planned for 1963 in addition to a three-year \$118-million program that will give the company by 1965 Canada's widest (148-inch) plate mill at Hamilton. The bulk of the expenditures will go to the Hamilton works. Late in 1962, Stelco opened a new 120,000 square feet, \$2.8 million Reinforcing Bar distributing plant, designed to be a highly efficient warehouse operation. Included in the current program is a research centre at Burlington. Staffed with about 25 persons, the new centre will conduct studies on the properties of steel and the concept of plant operation. The centre will cost approximately \$2 million.

Over \$170 million were spent by Dominion Foundries and Steel, Limited, during the 1951-1961 period. Dofasco is currently building in Hamilton a multi-million dollar office building, almost entirely steel and glass, and providing a total of 125,000 square feet of useable space. Atlas Steels' corresponding figure for the 1951-1961 period was about \$22 million, reaching the highest amount in any one year in 1961. In Brantford, Massey-Ferguson Limited is building a new \$13.5 million grain harvesting combine assembly plant which will start production early in 1964 and will offer jobs to some 700 persons on a two-shift basis. The plant will produce for both the Canadian and United States farm machinery markets. Cyanamid of Canada's expansion at Niagara Falls represents an outlay of about \$3 million. Canadian Liquid Air's \$4 million expansion project in Hamilton will make the City one of the largest oxygen-producing centres in the world. Only eighteen months after it started operation, Ford of Canada's fabricating plant near Niagara Falls is expanding its area by 40 per cent. The T. G. Bright & Co., Limited will expand and modernize its winery at Niagara Falls in the coming few years at an expense of about \$1.2 million. Late in 1962 Essex Packers Limited renovated its St. Catharines plant for rabbit processing. This is Canada's first enterprise of its kind on a commercial level. A major expansion was undertaken recently by F. W. Fearman Company Limited, which has doubled its capacity after constructing a \$2 million meat packing and processing plant at Burlington.

An examination of a list of new establishments which have come into operation recently, or report that they expect to be in operation in the near future, reveals that there are over 200 new establishments in the Region, with four in every five being new branch plants of already existing industries. The Metal Fabricating and

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the Food and Beverages groups are each acquiring one-fifth of the total of these new establishments. About 14 per cent of the new establishments is going into the Furniture and Fixtures group, 9 per cent into the Miscellaneous Industries group, 6 per cent into Printing, Publishing and Allied Industries group, and the rest going into the following groups in decreasing order: Transportation Equipment, Wood, Non-Metallic Mineral Products, Chemical and Chemical Products, Machinery, Primary Metals, Clothing, Textiles, Electrical Products, Petroleum and Coal Products, and Leather.

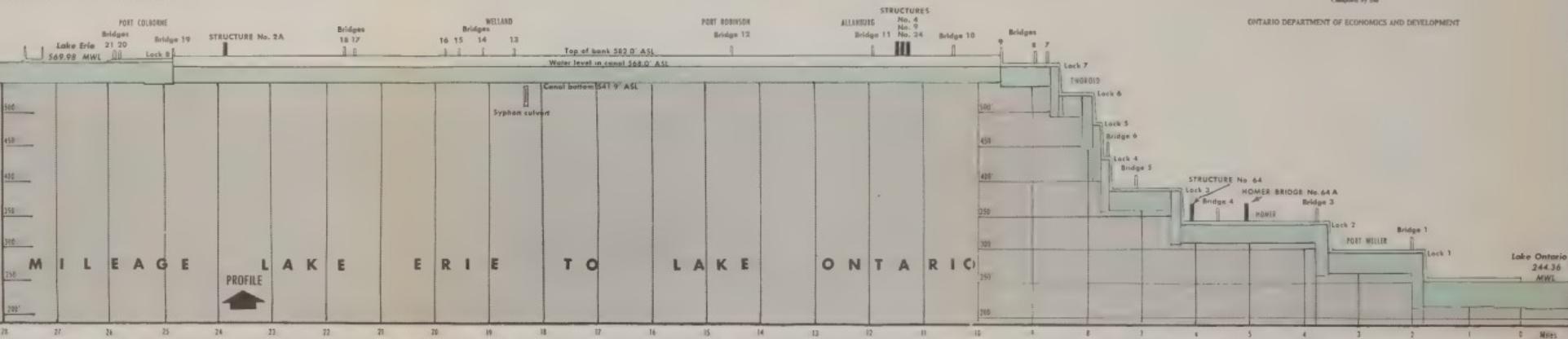
It should be noted that the Region's leading manufacturing city, Hamilton, broke all investment records for Ontario in 1960 when its aggregate for capital and repair investment amounted to \$168 million. About two-thirds of this amount was new capital investment while the rest was repair investment. Moreover, except for 1958, Hamilton's repair investment aggregate was Ontario's highest in every year between 1956 and 1962. For the first time since 1956, Hamilton's new capital investment of \$106 million in 1960 exceeded Metropolitan Toronto's by \$5 million. Capital and repair expenditures in Hamilton amounted to \$143 million in 1961 and \$154 million in 1962. The corresponding figure for 1963 is expected to reach \$156 million.

Note: Manufacturing data are compiled by the Dominion Bureau of Statistics on the basis of the Standard Industrial Classification. This was revised in 1960 and used in the compilation of data for that year. Statistics for the years 1957, 1958 and 1959 are being revised on the new basis. Earlier figures will not be comparable. Revisions for the Niagara Region which have been completed, i.e. Principal Statistics by Industries, are included in this study.

It should also be noted that where data for certain major industrial groups if shown separately would reveal information of a confidential nature, such groups are aggregated under the heading Other Major Groups. In the Niagara Region the following four groups are included under this heading: Tobacco Products Industries, Rubber Industries, Primary Metal Industries and Petroleum and Coal Products Industries.

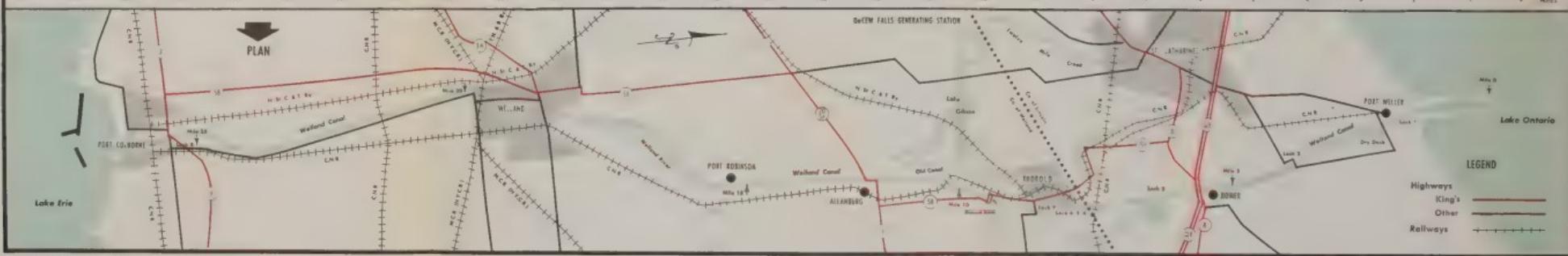
PROFILE AND PLAN OF THE WELLAND SHIP CANAL

Vertical Scale is quoted in feet above sea level



Compiled by the

ONTARIO DEPARTMENT OF ECONOMICS AND DEVELOPMENT



Compiled from information supplied by
the Department of Transport
General Engineering Branch, Ottawa

Transportation

The terms "corridor" and "gateway" have frequently been used to describe the Niagara Peninsula during North America's three stages of transportation development — water, rail and road. The effects of the developments in canal, railway and road construction in the Niagara Region throughout the years have been of major significance not only to the Region itself, but to Canada as a whole. In the past, transportation facilities have been instrumental in effecting industrial and commercial aggregation in the Peninsula and today the far-reaching program of current improvement and planned expansion of such facilities will provide still greater efficiency in the Region's transportation sector.

CANALS

Bounded as the Region is on three sides by the waters of Lake Ontario, Lake Erie and the Niagara River, water transportation has played an important role in the economy and, today, the Niagara's manufacturing industries are heavily dependent upon water transportation for a large amount of their raw materials as well as for the marketing of their output. This area was one of the first in the country to utilize canals as a major means of transportation.

Construction on the first Welland Canal began in 1824. William Hamilton Merritt, the promoter, envisaged that a canal 9½ miles long with 40 wooden locks, each 100 feet long, 22 feet wide and eight feet deep would remove the obstacle to shipping between Lake Ontario and Lake Erie. By 1850, the Welland received further renovations which permitted nine-foot draft throughout the entire canal system from Montreal to Sault Ste. Marie. The completion of this system marked the beginning of Great Lakes overseas trade and brought international status to the ports along the Canal. Competition from the railway was largely responsible for the period of canal construction which began after Confederation. These construction activities were aimed at providing 14-foot draft from the sea to Lake Superior, and were spread over one-quarter of a century.

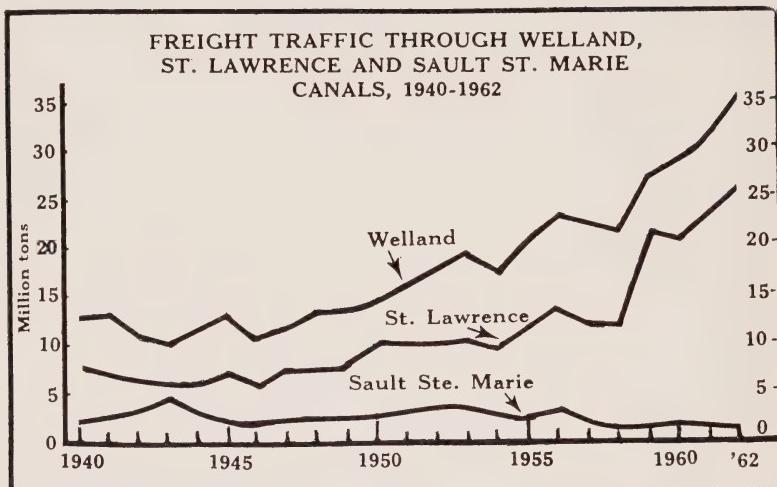
The present Welland Canal was constructed between 1913 and 1932. At the time of its completion, the 27.6-mile channel from Port Colborne at the eastern end of Lake Erie to Port Weller at the western end of Lake Ontario was the largest of its kind in the world. Eight locks lowered ships in stages down the 326-foot drop past the Niagara Falls. The Welland was to be the first link in the St. Lawrence Seaway because only a minor amount of work was needed to bring the Canal up to Seaway specifications (859 feet long by 80 feet wide by 30 feet deep over the sills) as 27 feet of water was already available along 17 of its 28 miles. The remaining 11 miles were deepened to 27 feet at a cost of \$21 million between 1956 and 1957.

The impact of the Seaway upon the Welland Canal has been clear and unmistakable. This is evident in the changes in the volume and type of cargo handled as well as in the number and class of ships using the Canal.

Because it has a well-developed "local" traffic to and from Lake Erie to Toronto and Hamilton, freight movement has generally been heavier on the Welland

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than on any other canal in Canada. The opening of the St. Lawrence Seaway in 1959 brought the largest traffic increase to the Welland in any year since 1930. The increase in the volume of freight, however, has been accompanied by a general decline in the number of vessels using the Canal. The net registered tonnage of vessels have continued to increase at a rate similar to that of cargo tons, but the size of vessels has increased. Whereas 394 vessels of over 640 feet in length used the Waterway in 1958, the number of such vessels had increased to 659 by 1961. It is reasonable to expect that this trend will continue.



One of the most significant developments arising from the Seaway has been the increase in the vessels of foreign registry using ports and the harbours. This fact is well illustrated by the Welland Canal's traffic. In 1952, the net registered tonnage of foreign vessels using the Welland was approximately 3.2 million tons. By 1961, this tonnage had increased to over 9.7 million. Between 1958 and 1961, the net registered tonnage of foreign vessels rose sharply by over 3.4 million tons. Today, foreign vessels handle over seven million tons more cargo than they did in 1958.

The sharp increase in shipping activities on the Welland has brought further prosperity to the Region's transportation sector, but it has nevertheless presented a serious congestion on the Welland section of the Seaway. The congestion has steadily worsened and is expected to become acute by 1966. The Federal Government has therefore decided to twin Locks Nos. 1, 2, 3, 7 and 8 on the Welland Canal. Work is scheduled to commence late in 1964. It is expected that this \$180 million project, which will require a work force of approximately 6,000 annually, will be completed in 1968.

The year 1962 was a record year in the traffic history of the Welland Canal as it handled over 36 million cargo tons of goods. In that year, the Canal accounted for 56 per cent of the total freight carried on Canadian canals and 36 per cent of the total number of vessels. Between 1952 and 1962, there has been a 98 per cent

increase in the number of cargo tons carried on the Welland. The largest increment in any one year occurred in 1959 after the opening of the Seaway when there was an increase of 29 per cent.

Iron ore was the principal commodity carried on the Welland and accounted for almost 30 per cent of the total cargo shipped. Wheat, coal and corn which contributed 15, 14 and 7 per cent, respectively, are the other commodities which occupy a large portion of the total cargo carried on the Canal.

Marine traffic has traditionally played an important role in our economic life. The Seaway opened a new chapter in Canadian transportation. As an integral part of this vital Waterway, the Welland Canal will undoubtedly increase the efficiency and prosperity of the economy in the years ahead.

HARBOURS

In 1962, the Region's nine major traffic ports handled 12.5 million cargo tons of freight. Of this total, iron ore constituted 3.8 million tons, coal — bituminous — 3.2 million, wheat 1.5 million and dolomite 0.9 million tons.

The Port of *Hamilton* — Canada's third largest — lies at the heart of the nation's steel city and has the finest natural deep water harbour on the Great Lakes. The harbour entrance is 29 feet in depth and navigation is controlled by both signal lights and radio telephone. Hamilton is one of the fastest growing ports in the country and it is expected to become even larger as freight traffic on the Seaway increases.

In order to meet the increase in cargo tonnage which was expected to be generated by the Seaway, in 1951, the Hamilton Harbour Commissioners embarked upon a far-reaching program to expand the handling wharves and freight terminals. Since that time, approximately \$35 million has been spent on the construction and renovation of wharves and freight terminals and on land reclamation. Four new piers have been added to the 25 already in existence and the cargo terminal buildings have been extended and modernized. The first unit of a new \$5 million general cargo terminal now under construction is expected to be in operation by 1964. The \$5 million reclamation program which began in 1957 will eventually extend the land area by approximately 1,000 acres and will provide land for additional port facilities as well as for industrial expansion.

Two developments which have greatly enhanced the efficiency and speed of operations at Hamilton have been the building of the Burlington Skyway Bridge and the vertical lift bridge. Completed in 1958 by the Ontario Department of Highways, the Skyway carries traffic on the Queen Elizabeth Way above the harbour entrance at the standard Seaway height clearance of 120 feet. The recently completed lift bridge was erected by the Federal Department of Public Works at an estimated cost of \$5 million. This bridge carries rail and local vehicular traffic and replaces the old bascule and swing bridges.

Courtesy — The Hamilton Harbour Commissioners.

Part of the Port of Hamilton's "Seaway Mile".



In 1961, Hamilton accounted for 62 per cent of the cargo handled at the Region's ports as opposed to 47 per cent in 1952. Cargo handled at Hamilton increased from 5.9 million tons in 1952 to 7.8 million in 1961 — an increase of 33 per cent. By the end of September 1962, over 6.6 million tons had been cleared at Hamilton which was somewhat more than the amount cleared in the same period of the previous year.

**CARGO HANDLED AT PORTS, NIAGARA REGION,
1952 AND 1961**

	Coastwise Shipping		Foreign Shipping		Total	
	1952	1961	1952	1961	1952	1961
	(Cargo Tons — 2,000 lb.)					
Hamilton	916,721	1,578,617	4,951,116	6,209,278	5,867,837	7,787,895
Port Colborne	4,296,440	1,673,138	640,956	1,291,491	4,937,396	2,964,629
Thorold	543,795	312,424	469,187	398,686	1,012,982	711,110
St. Catharines	53,987	283,000	93,594	125,148	147,581	408,148
Niagara Bar	147,530	362,136	31,820	—	179,350	362,136
Welland	217,914	93,346	143,214	29,537	361,128	122,883
Dunnville	—	—	—	30,867	—	30,867
Niagara Falls	—	71,240	—	2,050	—	73,290
Port Maitland	—	3,000	75,862	38,679	75,862	41,679
Total	6,176,387	4,376,901	6,405,749	8,125,736	12,582,136	12,502,637

The bulk of the cargo handled at Hamilton is in foreign shipping. Iron ore and coal which are the most important commodities unloaded from foreign ships account for approximately 93 per cent of the total cargo unloaded from these ships while iron and steel scrap, fuel oil and soya beans are other important commodities. Steel (plate and sheet) are the principal products loaded for export from Hamilton. Iron ore, fuel oil, sand and gravel, in that order, are the major commodities unloaded in coastwise shipping. Cargo shipped for export in coastwise shipping from this port is relatively small.

As Hamilton alone accounts for approximately two-thirds of the cargo handled at the Region's ports, the remaining eight ports — *Port Colborne, St. Catharines, Welland, Thorold, Niagara Bar, Dunnville, Niagara Falls, and Port Maitland* — together contribute about one-third of the total cargo handled. Of these, Port Colborne (the only other major port in the area) accounts for approximately 24 per cent of the cargo handled in the Niagara Region. The cargo at this port is fairly evenly divided between coastwise and foreign shipping, with coastwise slightly greater in 1961. Wheat, dolomite, iron ore, coal, fuel oil and pig iron are the most important commodities handled at this port. Among the wide range of goods handled at the other ports in the area, sand and gravel, coal, fuel oil, pulp-wood and newsprint paper are the most important.

RAILWAYS

Canada's first major railroad — The Great Western — ran from Niagara Falls to Detroit via Hamilton. It was the forerunner of a series of lines which have

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traversed the Peninsula and contributed to the building up of towns, the marketing of agricultural produce and later the import and export of raw materials and manufactured goods.

Today, four companies — Canadian National Railways, Michigan Central (New York Central System), Toronto, Hamilton and Buffalo Railway Company and the Canadian Pacific Railway Company — operate a network of approximately 500 miles of passenger and freight lines across the area. The Canadian National which has about 300 miles of these lines dominates the Region's railroad activity.

The Niagara is served by more double-tracked lines than any other Region in Canada. It lies at the centre of the C.N.R.'s triangular double-tracked lines which connect the eastern portions of Canada and the United States as well as on the northern arc of Michigan Central's double-tracked line. The fast passenger and freight services operated on these lines connect all of the larger centres of Eastern Canada and the United States and serve Hamilton, Niagara Falls, St. Catharines, Welland, Burlington, Dundas, Brantford, Grimsby, Paris, and Hagersville. With the exception of Port Colborne, all of the Region's centres with population of 10,000 and over are served by double-tracked lines.

The Canadian National Railways' Montreal-Toronto-Sarnia-Chicago double-tracked line divides at Hamilton and continues on to Niagara Falls and Buffalo. These lines have connections at the Falls and Buffalo so that freight travelling on the C.N.R. lines have similar services through to the major cities in the Eastern United States. Approximately 230 more miles of lines are operated by the C.N.R. but these are used mainly for the transportation of freight. The 27-mile Niagara, St. Catharines and Toronto Railway is operated as a freight service by the C.N.R.

Michigan Central — an extension of New York Central System — operates 75 miles of its Buffalo-Windsor-Detroit double-tracked line through Fort Erie, Welland, Cayuga, and Hagersville. Freight service is available between Niagara Falls and Welland and between Niagara Falls and Chippawa.

The Toronto, Hamilton and Buffalo operates 88 miles of line in the area. The Company's main passenger and freight line runs from Welland through Hamilton to Brantford, continuing on to Port Dover while its Port Maitland-Smithville line is used exclusively for freight. As the Canadian Pacific Railway has little direct participation in the Region, the Toronto, Hamilton and Buffalo serves as the carrier in the Region for the Company's domestic and international freight traffic, picking up and delivering carload freight to Canadian Pacific at interchange facilities in Hamilton. Canadian Pacific operates a daily way freight service between Toronto and Hamilton on C.N. trackage under a running rights agreement. Twelve industries in Burlington and approximately 500 in Hamilton are served in this manner. The only other line operated by C.P.R. in the Region is the Lake Erie and Northern Railway Company which serves 31 industries in Brantford and nine in Paris.

HIGHWAYS

On the 31st of March, 1962, the Niagara Region was served by 6,486 miles of road. Fifty-eight per cent were organized township roads, 22 per cent were urban roads, 12 per cent county roads and 8 per cent King's Highways.

Although King's Highways occupy the smallest portion of the total road mileage in the area, they have the highest traffic density of any roads in the Region. In 1961, the annual average daily traffic density on the Queen Elizabeth Way between Highway No. 20 (Lundy's Lane) and the Burlington interchange to the junction of Highway No. 2 ranged between a high of 23,000 at certain points to a low of 10,500; similar figures on Highway No. 8 between Niagara Falls and Peters Corners at the junction of Highways Nos. 5 and 52 ranged between 20,000 and 2,400. In January 1961, the volume of traffic occupied by trucks alone was 13 per cent on the junction of Highway No. 8 and the Queen Elizabeth and 19 per cent at Peters Corners on Highway No. 8.

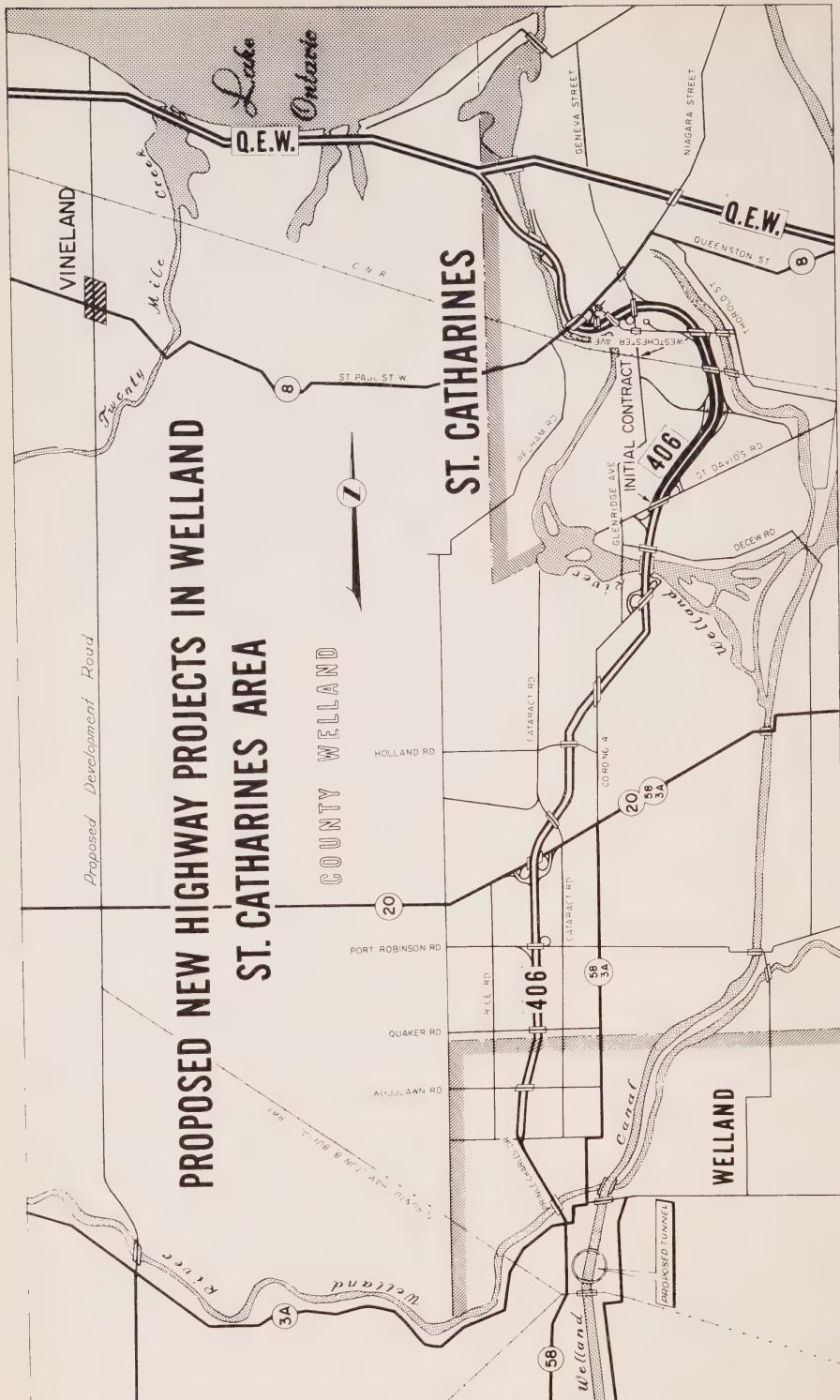
Between April 1, 1961 and March 31, 1962, the Department of Highways spent over \$14 million on King's Highways, secondary highways, connecting links, development roads, and roads in unincorporated townships. Over 85 per cent of this total was devoted to road construction. Nearly two-thirds of this sum was expended on roads in the County of Lincoln.

**DEPARTMENT OF HIGHWAYS' EXPENDITURE ON ROADS
IN THE NIAGARA REGION BY COUNTY,
APRIL 1, 1961 TO MARCH 31, 1962**

Brant	\$ 790,724
Haldimand	573,283
Lincoln	8,199,421
Welland	1,438,807
Wentworth	3,346,055
 Total	 \$14,348,290

Three of the major projects of the Department of Highway's 1961-62 program of road construction were Highways Nos. 403 and 405, and the Garden City Skyway. Highways 403 and 405 which are to be controlled access highways of the same standard as Highway 401 are designed to form an integral link with the Queen Elizabeth Way.

In 1960, construction work was started on the 15.9-mile section of Highway No. 403 between the Freeman Interchange on the Queen Elizabeth Way and Duff's Corner, the intersection of Highway No. 2. By the end of 1963, approximately six miles of this Highway from the Freeman Interchange westerly to Longwood Road in Hamilton will be completed and opened to traffic. During the fiscal year 1963-64, work will begin on the Brantford By-pass which is another important section of Highway No. 403. The value of the contracts to be awarded are expected to be approximately \$1.8 million.



Courtesy — Ontario Department of Highways



In the late Summer of 1961, contracts were awarded for the construction of the four-lane Highway No. 405 which will run from the Queen Elizabeth Way at a point east of St. Catharines to the recently completed Queenston-Lewiston International Bridge. Upon completion in the fall of 1963, this \$4.5 million Highway will connect one of the Province's major freeways with the New York through-way system.

In 1958, Ontario's first skyway was completed at a cost of over \$19 million. By the end of 1963, the Province's second skyway — The Garden City Skyway — will have been completed. Located near St. Catharines, the \$20-million high-level bridge with a six-lane divided roadway will carry traffic on the Queen Elizabeth Way over the Welland Canal. As this one and three-quarter mile structure will provide ample clearance for ocean going vessels, it will eliminate the last traffic bottle-neck on the Queen Elizabeth Way.

Another four-lane controlled access Highway (No. 406) has been scheduled for construction in the Niagara Peninsula. When this Highway is completed, it will extend from Welland north to the Queen Elizabeth Way at St. Catharines. Good connection between Highways Nos. 406 and 58 will facilitate road travel between Port Colborne and St. Catharines. Work has already begun on a three-mile section within the city limits of St. Catharines.

Late in 1962, the Province announced that negotiations were being conducted with the Federal Department of Transport and the City of Welland to start designing a \$10-million tunnel under the Welland Canal in the City of Welland. This tunnel will eliminate the existing traffic congestion in the City created by the present lift bridge and will help to speed the passage of vessels on the Canal. Construction on this project is expected to begin early in 1965.

TRUCKING OPERATIONS

Since the second World War, transportation by truck has been greatly expanded and today, trucking occupies a dominant position in the field of transportation. In the Niagara Region where good roads and close proximity to large market areas have made it possible to ship not only light-weight, bulky commodities but also

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heavy articles by trucks, this method of transportation has reached great importance. Overnight trucking service is available between all points of the Region and Toronto, Montreal, Buffalo, Detroit, New York and other major cities within a 500-mile radius.

The City of Hamilton, which is situated at the very hub of the highway system in Southern Ontario, is served by approximately 100 transport companies; Brantford is served by 28; St. Catharines by 17 and Welland by 9. Some of the larger firms operating in the area are Consolidated Truck Lines Ltd., Direct Winters Transport Limited, Kingsway Transports Limited, Overland Express Limited, and Smith Transport Ltd. Consolidated has six terminals and serves 35 points, Direct Winters three terminals and serves 25 points while Kingsway Transport operates three terminals and serves 15 points in the Niagara Region.

MOTOR VEHICLE REGISTRATIONS

Motor vehicle registrations have established small but steady increases over the past decade. In 1961, there were 256,132 passenger, commercial and dual purpose vehicles in the Niagara Region. This was 61 per cent more than the corresponding figure in 1951. Passenger automobiles were by far the largest type occupying 81 per cent in 1961. Commercial vehicles which include trucks, tractors and buses occupied 14 per cent and dual purpose — station wagons, etc. — accounted for 5 per cent in 1961.

MOTOR VEHICLE REGISTRATIONS NIAGARA REGION, 1961

Passenger	208,149
Commercial	35,013
Dual Purpose	12,970
Total	256,132

AIR TRANSPORTATION

There are eight land bases, one heliport and one sea plane base in the Niagara Region. The Hamilton Municipal Airport is situated off No. 6 Highway at Mount Hope, about eight miles south of the centre of Hamilton. It features 6,000 feet of usable paved runway which is utilized by Canadian and American company-operated aircraft for private business and pleasure purposes. The airport at St. Catharines — Niagara District Airport — has three paved runways, two 2,500 feet in length and the third 2,000 feet long. Customs and immigration services are available at these two airports.

Other commercial land bases located at Brantford, Fort Erie, Niagara Falls, Port Colborne, and Welland are smaller and have usable areas ranging between 3,200 and 2,400 feet. The airport at Dunnville is owned and operated by the R.C.A.F. for storage purposes.

Communications

The Niagara Region has a historic association with the technology of communication. For example, in 1846, the first telegraph service in Ontario was inaugurated between Toronto and Hamilton. The world's first successful long-distance telephone call was made in 1876 from Brantford to Paris, both in Brant County. As far back as 1793, the first printing press in Upper Canada was set up in the Town of Niagara.

Today, as an industrial centre of major significance in Canada, the Niagara enjoys an excellent system of communications. All the modern means of communication — telegraph, teletype, telephone, radio, television, postal service and press — are at the disposal of the Region's inhabitants. A high proportion of occupied dwellings have ownership of telephone and television sets. The Region's press includes several specialized periodical publications as well as weekly newspapers in different languages.

TELEPHONE

It is estimated that the percentage of all occupied dwellings with telephones rose from 75 per cent in 1951 to 96 per cent in 1961. The estimated total number of telephones in the Region increased from 167,621 in 1951 to 307,803 in 1962. This represents an increase of 84 per cent, reflecting a slightly smaller increase than that of the Province as a whole during the same period.

ESTIMATED DISTRIBUTION OF TELEPHONES, BY COUNTIES, NIAGARA REGION, 1962

	Number of Telephones	% Change 1962/1951
A — Burlington		
Brant	30,935	45.9
Wentworth	157,352	85.5
Sub-total	188,287	77.6
B — Niagara		
Haldimand	8,386	84.5
Lincoln	51,892	83.6
Welland	59,238	105.8
Sub-total	119,516	94.0
Total, Niagara Region	307,803	83.6

The Region's telephone service is operated mainly by The Bell Telephone Company of Canada through 39 exchanges, all of which are dial operated. The exchanges in Grimsby, Wainfleet and Wellandport were converted to dial in 1961 and Ridgeway was converted in 1962.

There is only one independent telephone system in the Region: Dunnville Consolidated Telephone Co. Ltd. It operates single exchanges in Dunnville and in Caledonia, with a total number of subscribers of about 4,600. The Caledonia exchange was converted to dial in 1958 and the conversion at Dunnville is now underway.

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POST OFFICES

Mail services of the Post Office Department are available to every community in the Region. Total revenue derived from the Region's post offices on the 31st of March, 1961 was approximately \$7 million — an increase of 3 per cent over the previous year. Slightly less than one-half of this amount was accounted for by the City of Hamilton. Other cities with high postal revenues were St. Catharines, Brantford, Niagara Falls, Burlington, and Welland in this order.

RADIO AND TELEVISION

In the eight largest urban centres of 10,000 population and over in 1961 more than 90 per cent of the occupied dwellings were equipped with television. Radio ownership is even more widespread.

OCCUPIED DWELLINGS WITH TELEVISION RECEIVERS, URBAN CENTRES OF 10,000 POPULATION AND OVER, NIAGARA REGION, JUNE 1, 1961

	Total Occupied Dwellings	Occupied Dwellings with Television Receivers	
		No.	% of Total Dwellings
Hamilton (City)	73,829	67,594	91.6
St. Catharines (City)	23,287	21,469	92.2
Brantford (City)	15,907	14,653	92.1
Burlington	12,299	11,588	94.2
Welland	9,428	8,872	94.1
Niagara Falls (City)	6,371	5,919	92.9
Port Colborne	4,114	3,907	95.0
Dundas	3,525	3,233	91.7

All radio and television stations in the Niagara Region are privately owned. In 1962, seven radio stations were in operation in the Region, three of which were in Hamilton, while the others were located in Brantford, Niagara Falls, St. Catharines and Welland. The Brantford and St. Catharines studios have FM broadcasting facilities. The Region's only television station is situated in Hamilton.

PRESS

Five daily newspapers are published in the Region: Brantford *Expositor*, Hamilton *Spectator*, Niagara Falls *Review*, St. Catharines *Standard* and Welland-Port Colborne *Tribune*. One paper is published twice weekly (Port Colborne) and about 21 weekly papers are published in English, Dutch, Italian and Serbian. In addition, there are some specialized periodicals and journals that are published semi-monthly and monthly. These include Hamilton's *Canadian Journal of Medical Technology*, *Cost and Management*, and Brantford's Quarterly *The Canadian Forester*.

Construction, Housing and Household Facilities

The building industry in the Niagara Region exhibited steady expansion between 1951 and 1956 with the exception of a slight fall in 1954. In 1958, building permits issued reached a high of \$127 million — almost double the 1951 figure (\$64 million). During the period 1959 to 1961, the industry tended to decline, perhaps due to the economic slow-down in 1959 which affected several industries, but an appreciable revival during 1962 resulted in a general increase from \$64.4 million in 1951 to \$109.9 million in 1962, or an increase of 71 per cent.

The greatest percentage increase occurred in construction for government and institutional purposes (268 per cent), followed by commercial buildings (138 per cent) and residential construction (58 per cent). Industrial construction suffered a decline of 38 per cent between 1951 and 1962.

VALUE OF BUILDING PERMITS ISSUED, NIAGARA REGION, 1951 AND 1962

	1951		1962		% Change 1962/51
	\$000's	% of Total	\$000's	% of Total	
Residential	32,346	50.3	50,941	46.4	57.5
Industrial	15,717	24.4	9,812	8.9	-37.6
Commercial	8,129	12.6	19,328	17.6	137.8
Institutional and Government	8,092	12.6	29,795	27.1	268.2
Other	75	0.1	—	—	—
	<u>64,359</u>	<u>100.0</u>	<u>109,876</u>	<u>100.0</u>	<u>70.7</u>

Note: 1951 excludes Burlington.
1962 includes Burlington.

Residential construction accounted for just over one-half of the total value of building permits issued in 1951. Industrial construction which contributed 24 per cent was next in importance. Commercial, and institutional and government construction, each accounted for 13 per cent of the total. Although residential construction still held its traditional lead in 1962, its proportion had declined to 46 per cent of the total. The remarkable expansion in construction activity in the institutional and government sector has brought this category's contribution to second position. In 1962, institutional and government construction amounted to \$30 million, 27 per cent of the total. Construction for commercial purposes ranked third, contributing 18 per cent to the total.

Because of its geographic location and the advantage of a more rapid industrial expansion, Hamilton had by far the largest number of construction units started and completed in the Region between 1952 and 1962. The City was followed by St. Catharines, Brantford and Niagara Falls.

Business expansion and diversification have shown notable strength despite a slow-down in economic activity since the late fifties. The values of business projects approved which are in excess of \$100,000 were as high as \$19 million in

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DWELLING UNITS STARTED AND COMPLETED IN SELECTED CENTRES OF 5,000 POPULATION AND OVER NIAGARA REGION, 1952, 1961 AND 1962

		Started			Completed		
		1952	1961	1962	1952	1961	1962
Hamilton	urban	2,460 ¹	2,267	2,812	1,877 ¹	2,643	2,227
	city	1,449	1,381	1,800	906	1,699	1,370
St. Catharines	urban	²	417	420	²	419	372
	city	142	364 ³	371	113	367 ³	315
Brantford	urban	²	216	326	²	305	272
	city	253	148	262	308	211	215

Note: From January 1, 1956, includes additional Townships of Flamborough East, Flamborough West, Nelson, and part of Ancaster and Saltfleet Townships.

¹Includes Hamilton City, Burlington, Dundas, Stoney Creek, Waterdown, Barton Township and 'other parts'.

²Not classified as an urban area prior to January 1, 1956.

³From January 1, 1961, Merriton and Port Dalhousie, and Grantham Township included in St. Catharines City.

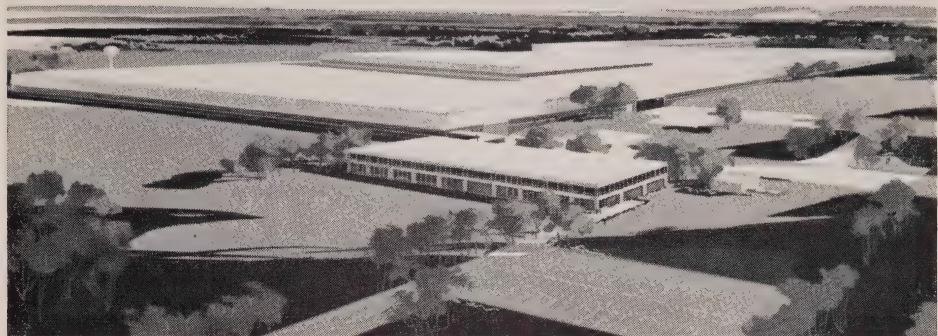
1961, \$21 million in 1962 and \$7 million between January and April 1963. These figures represented 9, 9 and 12 per cent, respectively, of the Ontario total. If the present trend continues, then construction in the year 1963 should attain a high level in the Region since the expansion during the first four months of the year in relation to the Province was already greater than that in the previous year.

LEADING PROJECTS IN EXCESS OF \$100,000 IN THE NIAGARA REGION, 1962

Name of Firm	Location	Value (\$000's)
The Steel Company of Canada, Limited	Hamilton	3,517
Massey-Ferguson Limited	Brantford	3,200
Dominion Foundries and Steel, Limited	Hamilton	2,967
Township of Stamford (sewage treatment)	Niagara Falls	1,381
Brantford Plaza	Brantford	1,250
Ontario Water Resources Commission	Burlington	870
F. W. Woolworth Company Limited	Hamilton	618
The Canada Trust Company — Huron and Erie Mortgage Corporation	Hamilton	600
International Harvester Company of Canada, Limited	Hamilton	600
Bonar & Bemis, Ltd.	Burlington	458
Cyanamid of Canada Limited	Niagara Falls	447

During the first four months of 1963, the largest values of contracts awarded were for \$1.8 million to The Steel Company of Canada, Limited, \$1.2 million to Steinberg's Limited in Hamilton, \$1 million to Canadian Drawn Steel Company Ltd., Hamilton, a subsidiary of Stelco. Smaller contracts have been approved for Dominion Foundries and Steel Ltd., Hamilton, Massey-Ferguson Ltd., Brantford, Firestone Tire and Rubber Co. Ltd., Hamilton, T. G. Bright & Co. Ltd., Niagara Falls, Canada Packers Ltd., Brantford, Mountain Plaza Service Stores, Hamilton and Cyanamid of Canada Ltd., Niagara Falls.

Single detached dwellings were by far the most popular type in 1951 occupying 73 per cent of the Region's total. Apartments and flats ranked second accounting for 21 per cent of the total. By 1961, the number of single detached dwellings had



Courtesy — Robert C. Ragsdale, Toronto.

The new \$13.5 million combine assembly plant now under construction by Massey-Ferguson Limited, at Brantford.

risen from 111,870 in 1951 to 155,889 to occupy 76 per cent of the Niagara total. The number of apartments and flats as a percentage of Ontario, however, fell from 14 per cent in 1951 to 11 per cent in 1961.

The proportion of owner-occupied dwellings in the Niagara Region rose from 70 per cent in 1951 to 75 per cent in 1961, while tenant-occupied dwellings fell from 31 to 25 per cent during the same period. A very small percentage of the houses — four per cent — are in need of major repair.

The increase in the number of homes which are equipped with radio, telephone and television is remarkable. Ownership of the radio is almost universal; the proportion of homes with telephones increased from 75 to 96 per cent between 1951 and 1961 while television owners rose to 92 per cent in 1961. Over six per cent of homes had more than one television set and the Niagara Region has 13 per cent of the total in Ontario.

The number of households in the Region which are equipped with modern living conveniences have greatly increased and today, these households enjoy a very high standard of living comforts. Whereas in 1951, 56 per cent of all occupied dwellings in the Niagara Region had passenger automobiles, by 1961, the proportion had risen to 78. More than 11 per cent of homes have more than one automobile. Nearly every home (99 per cent) is equipped with refrigeration facilities. In 1951, bath facilities had been installed in approximately 83 per cent of all occupied dwellings, but by 1961, these facilities were to be found in 94 per cent of all homes. The percentage of homes with neither bath nor shower declined sharply from 17 to 3 per cent. Slightly over 95 per cent of Niagara's homes are equipped with inside flush toilets while 97 per cent had running water supplied mainly by Municipal Mains. Sewage disposal facilities were available to 95 per cent of the homes in 1961. Of these, slightly over 70 per cent had connection to sewers.

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Whereas coal or wood was the principal heating fuel in the Niagara Region in 1951, oil became the leading fuel by 1961, while gas ranked second. During the same period, the use of coal or wood for heating purposes has showed a steady decline.

TOWN OF BURLINGTON

The value of building permits issued in the Town of Burlington in 1962 was in excess of \$12.6 million. Over one-half of this total was for residential housing, one-quarter for institutional and government, 12 per cent for industrial and seven per cent for commercial.

Because of the enlargement of the Town's area by annexations, the 1951 and 1961 figures are not strictly comparable. Although the figures are set out in the statistical appendix only figures relating to 1961 are used below. There were 12,299 occupied dwellings in the Town in 1961. Over 83 per cent of these dwellings were of the single detached type and approximately the same proportion were occupied by the owners of the dwelling. A very small proportion of the Town's homes — 2 per cent — are in need of major repair. Oil is by far the most important type of fuel used in Burlington's homes and the hot air furnace is the principal type of heating equipment.

Almost all homes are equipped with hot and cold running water facilities. Over 96 per cent of the Town's occupied dwellings have the exclusive use of bath facilities while 92 per cent have the exclusive use of inside flush toilets. Approximately one-half of the homes have connections to sewer mains while the others use septic tank, etc. Almost all homes have refrigeration facilities, over 94 per cent have television and 93 per cent have passenger automobiles.

Trade

Most of the Niagara Region's industrial products are marketed to consumers outside the Region. A good deal of these products have a coast-to-coast market, and some enjoy sales on the international market. The largest market for the Region's output is Ontario in general, and more particularly the consumers and producers of the highly industrialized and urbanized centres in south and southwestern Ontario. Other parts of Canada, the United States and the British Commonwealth represent major markets for the Region's products, but to a lesser extent.

The Region's most outstanding export item in terms of both volume and value is primary iron and steel in its various forms. More than one-half of all the primary iron and steel produced in Canada originates in the Niagara. Atlas Steels Company, the largest producer of stainless and specialty steel in the British Commonwealth, sells slightly less than one-third of its production overseas and has five foreign subsidiaries that are essentially sales agents.

Agricultural machinery produced in the Region is sold in practically every country in the world. Combines from Cockshutt Farm Equipment of Canada Ltd., Brantford, are exported to a number of countries in Latin America, the Middle East, Oceania, and Africa. This Company's exports are expected to approach \$3 million this year. The principal market areas for the International Harvester Company of Canada, Limited at Hamilton are primarily Canada and the United States. Some 40 countries throughout the world compose the Company's secondary market for farm and industrial equipment.

Abrasives made here cover more than 70 per cent of the total Canadian production of abrasives. A good deal of abrasive products are shipped in their semi-finished form to the United States for further processing. The Region is one of the Province's major suppliers of several other industrial products. In terms of value of factory shipments, in 1960 the Niagara produced 29 per cent of the total shipments in Ontario's Machinery Industries Group, 23 per cent of the Metal Fabricating Industries Group and 19 per cent of the Textiles and Knitting Mills Groups combined. The Region's share was 84 per cent of all cordage and twine made in Ontario in 1960, 65 per cent of wine production, 61 per cent of refrigeration and air conditioning output, and 56 per cent of wire and wire products.

By virtue of its soil and climate, the Region's fruit and vegetable industry enjoys an extensive Canadian market. This industry has established foreign markets mainly in the United Kingdom and the West Indies. Wheat and wheat flour from the Region's two major flour mills at Port Colborne, however, dominate the foreign export market in food products.

Another industry which enjoys a large market is the pulp and paper industry whose products are sold mainly in the United States. The Welland Canal handles approximately half a million tons of newsprint every year.

Some of the other items exported by the Region's manufacturing industries include silverware to Ireland, aluminum boats to Australia, wire and wire screening

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to Latin America, ferroalloys to the United Kingdom, and fine and specialty paper and nickel to probably every country in the world.

Industrial raw materials assume a major portion of imports into the Region. It imports a substantial portion of the industrial machinery, chemicals, specialty products, fruits, cotton and waste paper from the United States.

The four largest commodities unloaded at Hamilton's Port in 1961 were iron ore and concentrate (3,565,933 cargo tons), bituminous coal (2,868,471 tons), fuel oil (352,430 tons) and sand and gravel (90,131 tons). Great Lakes ports of the United States were reported as the origin of 81 per cent of the iron ore shipments and practically all (99.8 per cent) the bituminous coal shipments unloaded at Hamilton in 1961. Shipments from Canadian ports accounted for 83 per cent of the 352,430 cargo tons of fuel oil unloaded at Hamilton, almost half of which came from Montreal, while Jamaica, Trinidad and Tobago accounted for more than half of the shipments from foreign countries. Imports from practically every country in the world were used by the local industry: tomato paste from Portugal, bauxite from British Guiana, strawberries from Poland, cotton from Mexico, wool from New Zealand, frozen fruits from Tasmania, crude rubber from the Far East, sisalana from Tanganyika, abaca from Philippines.

Rising incomes in the Region have contributed to the increase in the volume of retail trade in the area. The estimated per capita personal disposable income for the Region is eight per cent higher than the figure for the Province of Ontario as a whole. A substantial portion of the retail trade is handled by supermarket chains and department stores. Loblaw Groceterias Co. operates some 30 supermarkets throughout the Region, 12 of which are located in Hamilton, and Dominion Stores Limited operates 20.

The T. Eaton Co. operates twelve retail outlets, five of which are catalogue order offices. Simpsons-Sears Limited has ten branches. The F. W. Woolworth Co. Limited has 16 stores, four of which have been recently opened representing an investment of over \$1 million.

Tourist Trade

The Niagara Region's strategic location, its natural beauty and its historic significance combine to attract more visitors than any other single recreational area in Canada. The tourist trade is therefore an important sector of the economy which generates a significant amount of income for a large proportion of its residents. In Niagara Falls, the tourist trade is considered to be the City's largest single industry.

The large number of visitors to the area has stimulated the construction and maintenance of a variety of tourist accommodation in the Niagara. In 1961, the Region (including the Town of Burlington) had 412 establishments with 6,791 units which were capable of accommodating 23,494 persons. Of these establishments, 212 were motels with accommodation for 7,880 persons. About one-quarter of the area's tourist establishments are licensed for the sale of alcoholic beverages.

Welland County with more than one-half the tourist accommodation is the scene of most of the Region's activity in tourist housing. This is due mainly to the fact that Niagara Falls — the focal point of the Region's tourist trade — is located in this County. The importance is reflected in the fact that, in 1961 alone, this City issued permits for the building of tourist accommodation which were valued at some \$1 million. The corresponding figure in 1960 was \$319,000.

Since the early 1950's, some changes have taken place in the type of tourist accommodation within the Region. The smaller-scale inns and cabins throughout the area have declined while the number of new motels featuring many recreational facilities has increased significantly. Between 1956 and 1962, 85 new establishments were constructed in the Niagara Region. Approximately 89 per cent or 76 of these were new motels. Today, this Region accounts for almost 20 per cent of Ontario's motel units and contains more motels than any other Region in the Province.

Since the Niagara is situated at the gateway between Canada and the United States, its border cities, Fort Erie and Niagara Falls, are the nation's second and third largest ports of entry for foreign vehicles. Each year, these two centres together account for one-half of the foreign vehicles entering Ontario for 24 hours or less, 46 per cent of arriving commercial vehicles and 42 per cent of the vehicles staying for more than 24 hours. In 1962, approximately 4.6 million vehicles — 46 per cent of the Provincial total — entered and returned to Canada via Fort Erie and Niagara Falls. Over two-thirds of these were foreign vehicles entering the country.

The word Niagara — an Indian name for "Thunder of the Waters" — has become synonymous with one of nature's most magnificent displays of rugged beauty and quiet charm. Few areas are similarly endowed with so many resources which are not only vital factors to a highly industrialized economy but are, at the same time, tourist attractions.

One of the few areas in Canada possessing tender fruit soil and climate, the Peninsula's blossoming and ripening orchards are one of the unique scenic attrac-

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NIAGARA PARKS COMMISSION SYSTEM
Showing Major Tourist Attractions



tions of the country. Each year, during the 11-day Niagara Blossom Festival, thousands of sightseers pour into the area to see acres of flowering trees, shrubs and orchards at their magnificent best. In the fall, the Grape Festival in the City of St. Catharines is another major sightseeing attraction in the Peninsula. Steel-pouring in Hamilton — the largest steel-producing city in Canada — provides interest to visitors as it produces steel for the nation's industries. The thundering waters of the Niagara, which are famed for their breathtaking beauty, are also a major source of hydro-electric power. These generous gifts of nature have been preserved and even enhanced for widespread public enjoyment by the skill and artistry of man. Nowhere has preservation been more extensive and successful than in the Niagara Parks.

The Niagara Parks Commission was set up in 1885 to administer a total of 154 acres of land along the River. Since then, the Commission has developed and expanded the area under its jurisdiction to a total of about 3,000 acres which now includes 35 miles of continuous parkway from old Fort Erie on Lake Erie to Fort George on Lake Ontario, Stoney Creek Battlefield Park in Stoney Creek and the Charles Daley Park in Louth Township in the County of Lincoln. At the heart of this parkway is the remarkable Niagara River. This 34-mile long River plunges 326 feet from Lake Erie to Lake Ontario and includes navigable areas, whirlpool rapids, and two world-famous falls — the ruggedly spectacular Horseshoe Falls and the majestic and graceful American Falls. Seventy-five per cent of the River's flow thunders over the 2,200-foot wide Horseshoe Falls at the rate of 40 million gallons

of water per minute while the remainder cascades over the 1,000-foot wide American Falls at four million gallons per minute.

During the Spring and Summer, the Falls are surrounded with rich foliage, flowering gardens, trees and bushes and through the cloud of mist and spray which hangs perpetually above the Falls, there shines a rainbow which arches the gorge in sunny daylight. In Winter, the spray from the Falls freezes and clings to bushes and trees in delicate filigreed patterns and in extremely cold periods, an ice bridge forms across the river.

The lighting of the Falls in 1925 further enhanced the beauty of Niagara. This lighting along with new modern systems total twenty 30-inch coloured searchlights which transform the cataracts into a veritable fairyland by night. In addition to the lighting of the Falls proper, a \$138,000-illumination system was installed in Queen Victoria Park in 1961. Each evening, 400 lighting units ingeniously arranged throughout the gardens illuminate General Brock's Monument and over 1,000 surrounding trees and shrubs. On a summer's night, the gardens are transformed into a fairyland atmosphere of man-made moonlight while on winter evenings the anatomies of leafless trees are reflected against an endless canvass of dark sky.

As the establishment of the Parks System was designed not only to preserve all native plant life but also to introduce as many new species as possible, it was inevitable that the practice of horticulture would play a prominent part in the maintenance of the gardens. Throughout the years, arboriculture and floriculture here have reached unparalleled heights. This achievement is largely attributable to the progress and development of the Niagara Parks Commission School of Gardening which was founded in July, 1936. This institution, which is the only one of its kind in North America, has 200 acres of fertile soil as its principal classroom and the entire Parkway for the execution of experimental and project work.

Among the many features which attract visitors to the Parks are the Observation Plaza located at the base of Table Rock which provides a view of streams of water shooting into the air at the base of the Horseshoe Falls, the twin steamers "Maid of the Mist" which carry passengers through the waters at the foot of the Falls, Oakes Garden Theatre — a unique amphitheatre which combines formal architectural with horticultural effects — the Spanish Aero Car above the whirlpool basin which is one of the world's longest passenger-carrying cable railways, the Potvin Museum of hand-carved Canadian miniatures in motion and a replica of England's Crown Jewels and Royal Regalia.

The new 325-foot Seagram Tower which was opened in June 1962, provided yet another way to view the Falls. Located at the top of the escarpment overlooking the Horseshoe Falls, this million-dollar tower is the first of its kind in North America. Another structure which will provide similar viewing facilities is the 240-foot Skylift. This giant ferris wheel, which will make a single revolution in 20 minutes, is expected to have 16 enclosed cars and a restaurant in its stationary hub. The cost of the proposed Skylift has been estimated at \$1.5 million. From the Seagram Tower and the Skylift, sightseers will be able to enjoy a view of

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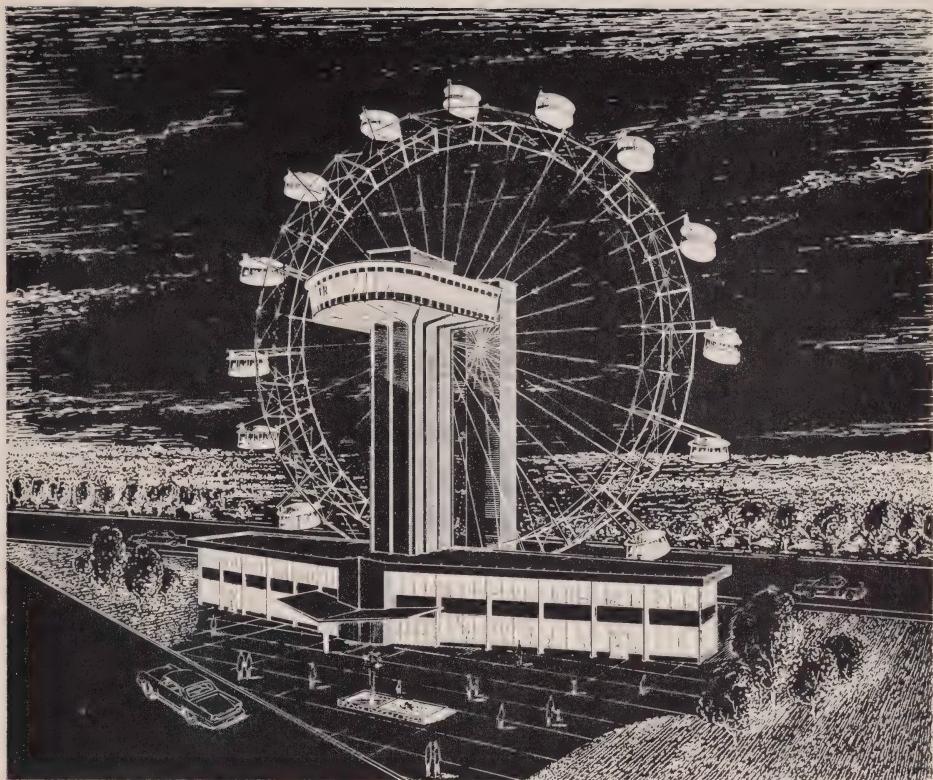


Courtesy — Gordon Counsell, Niagara Falls.

Seagram Tower, Niagara Falls.

Niagara Falls, Ontario and New York, the Canadian and the American falls, the gorge and the Hydro-Electric power plants from an angle that hitherto was available only from helicopters and aeroplanes.

Past events of early Canada have been carefully preserved at historic sites and monuments in the Niagara Region and these continue to be important sightseeing



Courtesy — Hans Mercnick, Niagara Falls.

The proposed Skylift, Niagara Falls.

attractions. Some of the sites and monuments are maintained by the Niagara Parks Commission while others are maintained by municipalities or by private organizations.

The Niagara Parks Commission has undertaken a program of historical restoration designed to acquaint the visitor with the history of the Region. Monuments and commemorative tablets which represent past occurrences that have influenced the destiny of this country have thus been erected on the respective sites along the Parkway. Some of Canada's finest moments in the past have been preserved by the Niagara Parks Commission at Butler's Burying Ground, Drummond Hill Cemetery, Stoney Creek-Battlefield House, Old Fort George, Old Fort Erie, Fort Mississauga, General Brock's Monument, the McFarland House, and at Navy Hall, Niagara-on-the-Lake, where Upper Canada's first Parliament was held.

The local municipalities have also played an important role in the preservation of the Region's history. In Brantford, there is the Bell Homestead where Alexander Graham Bell conceived the idea of the telephone, in Hamilton there is Dundurn Castle built in 1832, at Queenston there is Mackenzie's Printing House (1824) where "The Colonial Advocate" was first printed and in St. Catharines there

is a statue of W. H. Merritt who was instrumental in promoting the construction of the first Welland Canal 1824-29. These are only a few historical sites which have been preserved and maintained by the Region's municipalities.

The opening up of the Bruce Trail is designed to encourage hiking as a recreational activity. The Trail which will follow the Niagara Escarpment will originate in New York State near Rochester, parallel Lake Ontario to Hamilton, swing north to Collingwood, up the Bruce Peninsula across Manitoulin Island and end in Michigan and Wisconsin. Approximately 60 miles of this Trail between Queenston and Burlington lie within the Niagara Region.

The many attractive beaches along the northern shores of Lake Erie are not only recreational areas for vacationists but are sites for a large number of summer residences. These residents, many of whom are United States citizens, provide an appreciable amount of economic stimulus to centres such as Crystal Beach which are located along the shore of the Lake. The area's amusement centres, retail outlets, motels and marinas are only a few of the establishments which depend largely upon summer visitors for their income.

In recent years, there has been a growing concern about the availability of outdoor recreational and potential conservation areas in the Niagara Region. The Department of Lands and Forests operates only a single 42-acre park in the entire area, located at Rockpoint, ten miles south of Dunnville. The Niagara Peninsula Conservation Authority operates a 142-acre park at Long Beach while the Grand Valley Conservation Authority operates 144 acres at Byng Island and 104 acres at Pinehurst. Another area which is under the jurisdiction of the Niagara Peninsula Conservation Authority at Ball's Falls in Lincoln County is not yet officially opened. Other areas, the largest of which is the 1,900-acre Royal Botanical Gardens at Hamilton, are administered by certain counties and municipalities. The existing recreational areas in the Region, however, are considered insufficient to meet the present or future demands for the Region's inhabitants and its visitors. At the present time, the Niagara Regional Development Association has embarked upon a program for the acquisition of certain areas for future park development.

To alleviate this problem, the Ontario Government is negotiating the acquisition of three properties which will be developed as public parks in the Niagara Peninsula. Moreover, in November 1962 the Province announced a \$200 million, 20-year program of land acquisition designed to acquire parts of the shoreline of the Great Lakes and other needed lands so as to provide for future parks and recreational needs. This program is now underway and a survey of southern Ontario has already been conducted. Parts of the shoreline of the Niagara Region will undoubtedly be incorporated into this program of development.

Counties and Municipalities

Although the Niagara Region covers less than three per cent of Ontario's total land area, it contains about 13 per cent of its population and contributes approximately 18 per cent to the Province's value of manufacturing production.

The Region, comprising five counties and for purposes of this survey, the Town of Burlington, forms a Peninsula between Lake Erie and Lake Ontario linking the heart of Ontario with the eastern seaboard of the United States. The two inland counties of Brant and Wentworth are grouped into the Burlington sub-region, while the three counties of Haldimand, Lincoln and Welland form the Niagara sub-region.

A — THE BURLINGTON SUB-REGION

This sub-region includes about 42 per cent of the Region's land area and contains almost three-fifths of its population. Its value of factory shipments of manufactured goods which amounted to \$1.3 billion in 1960, accounted for 59 per cent of the total value of Niagara's factory shipments. This was more than three times the value shipped in 1946. Some 72 per cent of the sub-region's land area is devoted to agriculture, chiefly dairying.

BRANT COUNTY

This County's 421 square miles form the western and inland portion of the Region and contain 83,839 persons, over three-quarters of whom are urban dwellers. The population grew by 15 per cent between 1951 and 1961 and will increase some 40 per cent by 1981.

Between 1951 and 1961, the labour force was augmented by 2,460 to stand at 31,223. Most of these persons (39 per cent) are employed in manufacturing, 19 per cent are connected with the community, business and personal service industries, 14 per cent are employed in trade and 9 per cent are engaged in agriculture.

In 1960, Brant had 241 manufacturing establishments which shipped goods valued at \$182 million. This was about two and one-half times the \$76 million

PRINCIPAL STATISTICS, COUNTIES, NIAGARA REGION, 1961

	Total	Burlington		Niagara		
		Brant	Wentworth	Haldimand	Lincoln	Welland
Population	No. 762,288	83,839	358,837	28,197	126,674	164,741
	% (100.0)	(11.0)	(47.1)	(3.7)	(16.6)	(21.6)
Area (sq. m.)	No. 2,086	421	458	488	332	387
	% (100.0)	(20.2)	(22.0)	(15.9)	(15.9)	(18.5)
Population per sq. m.	No. 365	199	783	58	382	426
Labour Force, Total	No. 284,747	31,223	138,717	10,167	46,371	58,269
	% (100.0)	(11.0)	(48.7)	(3.6)	(16.3)	(20.5)
Labour Force, Manufacturing Industry Division	No. 110,408	12,144	56,170	2,468	16,813	22,813
	% (100.0)	(11.0)	(50.9)	(2.2)	(15.2)	(20.7)
Value of Factory Shipments, Manufacturing Industries (1960) \$000	2,126,560	182,153	1,072,839	25,451	217,684	628,433
	% (100.0)	(8.6)	(50.4)	(1.2)	(10.2)	(29.6)

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shipped by its 169 firms in 1946. The Foods and Beverages industries group is the largest in the County but it is followed closely by Textiles. Chemical and Chemical Products follow in importance. These three groups together accounted for \$52 million or 29 per cent of the County's selling value of factory shipments in 1960.

Approximately 76 per cent of the total land area is devoted to its 1,771 farms. The high degree of mechanization of the County's farms is illustrated by the fact that in 1961, 99 per cent had electric power, 88 per cent had tractors, 83 per cent had automobiles and over one-half were equipped with motor trucks and electric motors. In 1961, 1,346 farms were classified as commercial, 189 as residential and 134 as part-time. Most of the commercial farms (30 per cent) are engaged in dairying primarily while field crops occupy 27 per cent and one-quarter are live-stock farms. Approximately 14,000 acres of tobacco, which produce 20 million pounds, are grown in Brant County each year. In 1962, 406 farms sold tobacco which was valued at \$10 million.



Courtesy — Ontario Department of Travel and Publicity.

Tobacco Farm, Brantford.

Brant County, which is a large producer of milk and beef, is also noted for its tobacco, fine cheeses, horse-radish and garden vegetables.

The 23,301 occupied dwellings in the County in 1961 represented 17 per cent more than the 1951 figure. Over three-quarters were owner-occupied and more than 70 per cent were in good condition. Over 90 per cent of the County's homes have telephones, refrigerators and bath facilities and 77 per cent have automobiles.

This County's long and colourful history has been preserved at a number of sites which include Alexander Graham Bell's Homestead in Brantford, Six Nations Indian Reserve, Her Majesty's Chapel of the Mohawks (the oldest Protestant church in Ontario and the only Chapel Royal outside the United Kingdom) and Chiefswood, the birthplace of the poetess E. Pauline Johnson, daughter of a Mohawk chieftain.

Brantford, the county seat of Brant, has a population of 55,201 persons. Located on the Grand River approximately in the geographic centre of the County, it is served by Highways Nos. 2, 24, 53 and 54, by the C.N.R.'s main lines from Toronto to Sarnia and Chicago and from Fort Erie via Port Colborne to Goderich, by the Toronto, Hamilton and Buffalo, by the Northern Railway Company as well as by 28 trucking companies. The City operates an air base which offers customs and immigration facilities.

In 1960, Brantford's manufacturing establishments shipped goods valued at \$159 million. This was approximately two and one-third times the value shipped in 1946 and 12 per cent more than the 1951 figure. The City's 171 manufacturing establishments employed approximately 10,100 workers who earned over \$40 million in salaries and wages in 1960. The number of manufacturing employees in Brantford fell by 25 per cent between 1951 and 1960.

The City's principal manufacturing group is the agricultural implement industry which is led by Massey-Ferguson Limited and Cockshutt Farm Equipment of Canada Limited employing 1,150 and 1,111 persons, respectively. Other important employers are Brantford Coach and Body Limited, Brantford Cordage Company, Harding Carpets Limited (one of the largest carpet manufacturers in Canada), Hussmann Refrigerator Company Limited (one of Canada's largest manufacturers of food store equipment), and Koehring-Waterous Limited which constructs heavy equipment such as asphalt plants, cranes and excavators as well as equipment for pulp and paper mills.

Brantford's eight new manufacturing companies together invested over three-quarters of a million dollars in the City in 1962. In the same year, approximately \$14 million was devoted to expansion by the City's existing industries. While the new \$13.5 million plant by Massey-Ferguson occupied the major share of this amount, expansions by Gates Rubber, Brantford Cordage, Cockshutt Farm Equipment and Harding Carpets are also included.

Paris (5,820), located on the Grand River north of Brantford, is served by the C.N.R.'s main lines from Toronto to Sarnia and from Fort Erie to Goderich and by Highways Nos. 2, 5, and 24A.

In 1960, the Town's 28 manufacturing establishments employed 1,140 persons whose salaries and wages totalled \$3.6 million. The selling value of factory shipments for these establishments which was approximately \$12.5 million has remained fairly constant since 1951 but it was almost double the 1946 total. The Town's major shipper is Penmans Limited which employs more workers than any other company in Paris. It is followed by Consolidated Sand and Gravel Ltd., J. D. Adams and by the lime producing plant of Domtar Construction Materials Limited.

WENTWORTH COUNTY

With an area of 458 square miles, Wentworth constitutes the northerly portion of the Region at the western end of Lake Ontario. It is the Region's most thickly populated County with a predominantly urban population of 358,837 persons.

The County accounts for one-half of the total value of manufacturing production in the Niagara Region. Almost all of this manufacturing activity is centred in the City of Hamilton. In 1946, Wentworth's 574 establishments shipped goods valued at approximately \$319 million but by 1960, its 661 firms were shipping goods valued at \$1 billion. The Primary Metals group led by iron and steel is the County's most important industrial group. It is followed by the Metal Fabricating industrial group and by the Foods and Beverages industries.

Over 67 per cent of the total land area is devoted to its 2,367 farms. In 1961, approximately 66 per cent of the farms were being operated as commercial farms and of these, almost 30 per cent were devoted principally to dairying, one-quarter to livestock and a little more than one-fifth to fruit and vegetables. Wentworth is the Region's largest producer of hogs and the second largest producer of hens and chickens. In 1961, the County's cattle were valued at \$6 million while swine were worth approximately \$900,000 and hens and chickens \$585,000. In 1961, over 97 per cent of Wentworth's farms were equipped with electric power, 83 per cent with tractors, 79 per cent with automobiles, 56 per cent with motor trucks and 49 per cent with electric motors.

In 1961, the County's 95,788 occupied dwellings represented 37 per cent more than the 1951 total. Almost all of these homes had mechanical refrigerators and telephones, 92 per cent had television and over three-quarters had automobiles. Wentworth's homes have a very high standard of sanitation facilities. More than 72 per cent of occupied dwellings were owner-occupied in 1961 and the majority are in good repair. The most popular type of dwelling is the single detached type which accounts for 72 per cent of all dwellings. One-fifth of the dwellings in the Region are apartments and flats. Wentworth, with 20,438 apartments and flats, had over one-half of the Region's total in 1961.

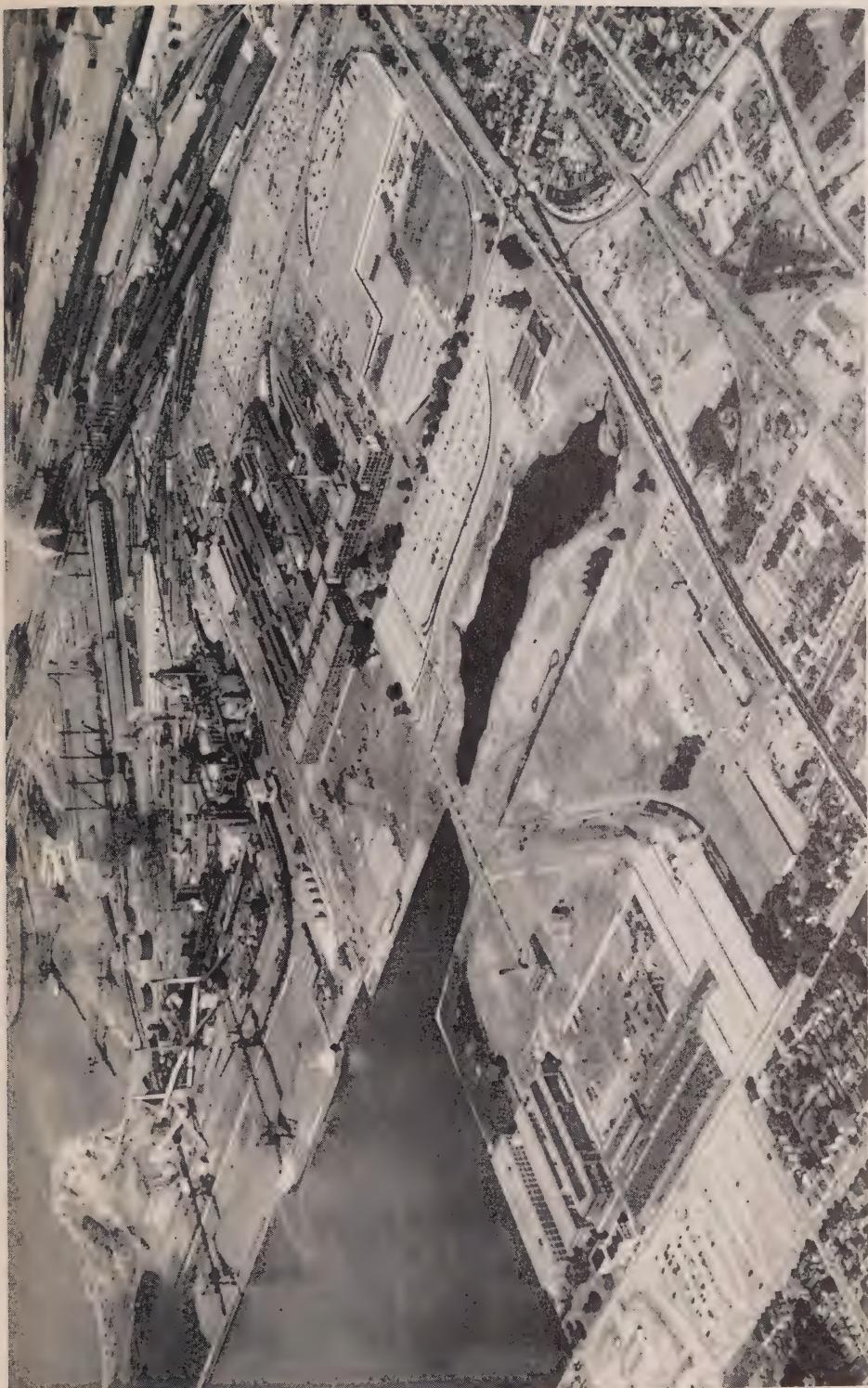
The City of *Hamilton* (273,991), by far the largest urban municipality in the Region, enjoys a position of pre-eminence as the centre of manufacturing activity in the Peninsula. This is undoubtedly attributable to its proximity to the county's most concentrated market area, easy access to rail and water transportation, low-cost power and a large supply of skilled labour.

Located at the hub of the highway system in Southern Ontario, the City is served by six primary and six secondary highways. Highway No. 403 will soon be added to the list of primary highways. This network of highways makes it possible for Hamilton to extend its dormitory areas into the five adjacent counties and for trucking companies to dominate the transportation scene. Approximately 100 transport companies offer comprehensive trucking facilities to the City's manufacturers. The City is served by the C.N.R., C.P.R. and Toronto, Hamilton and Buffalo Railway. Overnight rail service is available to every large metropolitan city on the eastern seaboard of the North American continent between Philadelphia and Quebec City.

Low-cost water transportation is available to Hamilton's industries through the development and modernization of an outstanding natural harbour whose useful-

Courtesy — International Harvester Company of Canada, Limited, Hamilton.

Aerial view of industrial complex in the City of Hamilton. At the centre is International Harvester's Hamilton operation and above that is The Steel Company of Canada's Plant.



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ness and value has been intensified by the St. Lawrence Seaway. Hamilton's proximity to the international airport at Malton makes it possible to complete the intervening distance within one hour. The City's Municipal Airport at Mount Hope is situated off Highway No. 6 about eight miles south of the centre of the City.

Approximately one-half of the Region's inhabitants reside in Metropolitan Hamilton which for Census purposes embraces the Towns of Burlington, Dundas and Stoney Creek, Waterdown Village and the Townships of Ancaster, Beverly, Binbrook, Glanford, Saltfleet and Flamborough, East and West. The population — 395,189 — is larger than that of Wentworth which is the Region's most thickly populated county. This fact is in part due to natural population increase but more so to the following annexations: parts of Ancaster in 1947, 1952 and 1960; parts of Barton in 1947, 1949, 1952 and the remainder of this township in 1960; part of Glanford in 1960; parts of Saltfleet in 1943, 1949, 1956, 1959 and 1960; Burlington Beach Park Commission, and parts of Nelson Twp. and Burlington Town in Halton County in 1957.

Manufacturing plants in the City of Hamilton shipped a total of one billion dollars worth of goods in 1960. This was over three times the value of the 1946 total, representing 96 per cent of the total shipped by the County of Wentworth and a little less than one-half of the total for the entire Region. Hamilton is Canada's third largest producer of manufactured goods. A little less than one-half of the Region's manufacturing employees work in Hamilton. In 1960, these workers earned \$243 million in wages and salaries which was approximately 40 per cent more than the 1951 total.

The chief manufacturing industry in the City is the primary iron and steel led by The Steel Company of Canada, Ltd. which employs 13,600 persons and by Dominion Foundries and Steel, Limited with 5,000 workers. Together, these firms produce more than one-half of the nation's primary iron and steel. The production of iron and steel here has been of major significance in attracting other heavy industry to Hamilton and its environs. The City's manufacturing output covers an extremely wide range of goods which include iron and steel products, rubber products, electrical equipment and appliances, glass products, chemicals and textile products.

One of the City's largest employers is Canadian Westinghouse Company, Limited which has 6,230 on its payroll. Other large employers include the International Harvester Company of Canada, Limited (3,000), Otis Elevator Company Limited (1,400), Procter & Gamble Company of Canada Limited (1,100), National Steel Car Corporation Limited (1,000) and Studebaker of Canada Limited (600). Although the larger employers are responsible for a significant portion of Hamilton's manufactures, the bulk of its manufacturing establishments employ less than 100 persons.

In 1962, capital investment and repairs in manufacturing stood at \$154 million. This was the second highest level reached in any year since 1946. The highest level was attained in 1960. Over the past 16 years, new capital investment and

repair expenditures in Hamilton have increased more, both in absolute terms and proportionately, than in Toronto, Windsor, Ottawa and London. The 1962 figure, which was 28 per cent greater than in 1961 and 54 per cent above the 1958 level, was spent largely upon new investment. Some indication of the manufacturing activity may be gleaned from Reports of the Engineering Services Branch of the Department of Labour on the number and value of projects approved. In 1961, the value of such plans approved which were in excess of \$100,000 totalled \$1.4 million for the City of Hamilton; by 1962 this figure had risen to \$13.6 million and for the first four months of 1963, it was over \$5.5 million. The major portion of the expenditures in 1962 and 1963 was undertaken by the two steel companies — Stelco and Dominion Foundries and Steel.

Two unique manufacturing industries which began operations in Hamilton in 1962 were Columbian Carbon (Canada) Limited, Canada's second largest producer of carbon black, and Metal and Thermit Products of Canada, Limited, Canada's first de-tinning plant. Hamilton will become one of the world's largest producers of liquid oxygen with the \$4 million expansion by Canadian Liquid Air Company Limited which will add a 500 oxyton unit to their existing facilities.

Until recently, Hamilton has been the site of the only university in the Niagara Region. Created in 1887, McMaster University's present enrolment is 2,300 in day classes and 12,493 in night and evening classes, summer school and non-credit cultural courses. It offers research facilities in many branches of manufacturing and, with the installation of Canada's first privately-owned nuclear reactor at McMaster in 1959, an entirely new field of research became available.

During the past decade, dwelling units started and completed in Hamilton have reflected the trend exhibited in building construction in Canada, that is, an increase to a peak in 1958, a decline to 1961 and some recovery in 1962. For example, dwelling units started in Metropolitan Hamilton in 1962 were 25 per cent lower than the peak in 1958 but they were 14 per cent more than the 1952 figure. The largest number of starts and completions in the Metropolitan area are to be found in the City and in the Town of Burlington. The City's 73,829 occupied dwellings represent 36 per cent of the Region's total. Of these, approximately 92 per cent are equipped with television.

CONSTRUCTION OF DWELLING UNITS, METROPOLITAN HAMILTON, 1952, 1959 AND 1962

	Started			Completed		
	1952	1959	1962	1952	1959	1962
Hamilton (metropolitan)	2,460	3,784	2,812	1,877	3,378	2,227
Hamilton (city)	1,449	2,389	1,800	906	1,498	1,370
Burlington	156	785	649	97	1,191	462
Dundas	126	76	102	43	55	88
Stoney Creek	61	23	45	46	37	82
Waterdown	13	3	6	11	6	6
Ancaster Twp. (part)	n.a.	174	82	n.a.	223	96
Flamborough E. Twp.	n.a.	45	35	n.a.	38	25
Flamborough W. Twp.	n.a.	131	31	n.a.	99	35
Saltfleet Twp. (part)	n.a.	135	62	n.a.	170	63

Hamilton's overwhelming dependence upon manufacturing has not prevented its participation in the promotion and preservation of historical sites and recreational areas. Points of historical interest include Dundurn Castle erected in 1832 by Sir Allan MacNab, now a historical museum, and LaSalle Park which pays tribute to the great French explorer. The City's 1900-acre Royal Botanical Gardens is the most outstanding horticultural attraction and scenic display outside the Niagara Parks.

In 1958 and 1959, the City expropriated some 173 acres of land located at Van Wagner's Beach and Crescent Beach on the shore of Lake Ontario. This land which is now being developed as a recreational area is Hamilton's first Urban Renewal Project. The initial cost of \$2.4 million was shared by the Federal and Provincial Governments and by the City of Hamilton which will spend \$750,000 upon this project over the next ten years.

The Town of *Dundas* (12,900) is located about five miles west of the City of Hamilton. As it is a part of Metropolitan Hamilton, the Town shares the transportation facilities which are available to this City. It is served by Highways Nos. 8 and 2 and the C.N.R.'s Toronto to Chicago main line as well as by the Toronto, Hamilton and Buffalo line from Hamilton to Waterford.

In 1946, the Town's 28 firms shipped goods which were valued at \$5.8 million. By 1960, there were 38 establishments which shipped \$12.5 million worth of goods. Some of the largest employers are J. Bertram & Sons Ltd., producing machine tools with some 320 employees, Steetley of Canada Ltd. which employs some 120 persons and Valley City Manufacturing Co. which employs about 125 in the production of church and school furniture.

In recent years a number of firms in Dundas have made substantial additions to their existing facilities. The most outstanding were carried out by El-Met-Parts, Valley City Manufacturers and by Canada Dry.

Stoney Creek located east of Hamilton on Highways Nos. 8 and 56 is situated near the site of the historic decisive battle of June 6th, 1813. Battlefield House, the Gage home where Mary Gage tended the wounded of both sides, is now a historical museum. Incorporated as a Town in 1956, its population of 6,000 has more than doubled since that time. Originally, the Town was a commercial centre for a prosperous fruit growing area but most of the land has now been absorbed into the City of Hamilton. Today, the Town is largely a residential suburb of Hamilton.

The value of manufactured goods has risen steadily between 1958 and 1960. Sixteen manufacturing establishments employed 412 persons in 1960 who earned salaries and wages which amounted to over \$1 million. The Town's establishments shipped manufactured goods to the value of \$4.5 million in that year.

Waterdown has a population of 1,844. The Village is located on Highway No. 5, seven miles north of Hamilton and is served by the C.P.R. Situated on the periphery of the large industrial centre of Hamilton to the south and Oakville to the east, Waterdown is largely a residential area. The manufacture of jams and

jellies is carried out by Nicholson and Stetter Ltd., furniture is made by Walco Furniture and dairy products are produced by Sunnybrook Dairy. Canadian Heritage Furniture, Ltd. is the most recent manufacturing company.

B — THE NIAGARA SUB-REGION

This sub-region consisting of the Peninsula's southerly and frontier counties of Haldimand, Lincoln and Welland covers about 56 per cent of the total land area of the Region and is the home of about two-fifths of Niagara's population. By 1981, an estimated 492,000 or over 40 per cent of the Region's inhabitants will live in the counties of Lincoln, Welland and Haldimand. Most of these persons are expected to be urban dwellers. The value of factory shipments of manufactured goods — now 41 per cent of the Region's total — almost tripled from \$337.6 million in 1946 to \$871.6 million in 1960. The number of manufacturing establishments rose from 499 to 583.

LINCOLN COUNTY

The County of Lincoln was created in 1792 by Col. John Graves Simcoe, 1st Lieutenant-Governor of Upper Canada (1791-6) and named after Lincolnshire, England. Comprising the northern portion of the Niagara Peninsula, it extends over 332 square miles of rich soil which is divided by the Niagara Escarpment. Lincoln's unique combination of soil and climate which favour the cultivation of fruit and vegetables has earned for the County the title "Garden of Canada".

The 1961 population stood at 126,674. This was 42 per cent more than the 1951 figure and by 1981, the number of inhabitants is expected to reach an estimated 197,000. This will be approximately 55 per cent more than the existing number. Between 1951 and 1961, the County gained over one-half of its increase in numbers naturally — that is, by an increase in birth rate minus the death rate — while the rest of the increase came from net migration.

In 1961, approximately 165,853 acres of Lincoln's land area was classified as farm land, 140,665 of which were improved. The improved land was allocated in the following order: 107,013 acres were under crops, 22,002 acres were devoted to improved pasture and the remainder was given over to "other improved" land. The County's 3,238 farms occupied 78 per cent of the total land area in 1961. In that year, both the number and the area of land under farms were slightly less than in 1951. Lincoln has the largest number of farms in the Niagara Region but the size of its farms are smaller than any of the other four counties. The County's 2,128 commercial farms which comprised 66 per cent of its total farms in 1961, were classified by main product types of: fruits and vegetables (64 per cent), dairy (16 per cent), livestock (8 per cent); poultry, mixed farming and field crops together contributed 8 per cent. During the past decade, an increasing number of the farms have been mechanized. Approximately 98 per cent of all farms now have electric power, 86 per cent tractors, 78 per cent automobiles and 66 per cent motor trucks.

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Although the County is not a large producer of livestock, in 1961, its cattle were valued at \$3.7 million, hens and chickens \$704,000 and its swine \$377,000.

The County of Lincoln has a wide variety of secondary industries. Excellent location and transportation facilities have greatly helped the development and expansion of its industries. In 1960, its 232 manufacturing establishments employed more than 13,500 workers who earned over \$61 million in salaries and wages and shipped goods amounting to \$218 million. This was 20 per cent more than the value of manufacturing goods shipped in 1951. The Metal Fabricating Industries is the most important industrial group accounting for \$35 million in 1960. Foods and Beverages is next with \$23 million and Non-Metallic Mineral Products is third with \$4.5 million. These three industries together employed some 4,300 persons or 31 per cent of the total number employed in manufacturing in Lincoln in 1960.

The 34,585 occupied dwellings in Lincoln in 1961 represented 42 per cent more than the 1951 figure. Seventy-seven per cent of these occupied dwellings were owner-occupied and 80 per cent were in good condition. The hot air furnace was the most popular type of heating equipment and was to be found in 65 per cent of the County's homes. Oil was the principal type of fuel and was used in 63 per cent of the homes.

Various agricultural research establishments are located in the County. The Province's Horticultural Experiment Station at Vineland works on variety testing, plant breeding and soil chemistry. The Horticultural Products Laboratory which is also at Vineland is engaged in research in horticultural products including the processing of foods and beverages, the storage and maintenance of the quality of fruits and vegetables, microbiology and wine-making. Two sections of the Research Station, Research Branch, Canada Department of Agriculture are also located at Vineland Station. The plant pathology section is engaged in research in fruit diseases while the entomology section carries out research of fruit insects.

St. Catharines is Lincoln County's only city as well as its county seat. Situated as it is in the midst of the Niagara Peninsula's orchards, St. Catharines is regarded as the capital of the famous fruit belt and known generally as the "Garden City". Named after the wife of Robert Hamilton, attorney-general of Upper Canada, it was founded by Loyalists about 1790, incorporated as a town in 1845 and as a city in 1876. The growth and development of the City is associated with the Welland Canal and with the supply of hydro-electric power at Niagara Falls.

The population of the City stood at 84,472 in 1961 and represented an increase of 122 per cent more than in 1951. This rapid growth however is partly attributable to annexations. The urban area of St. Catharines which covers the former centres of Merritton, Port Dalhousie, Thorold, and part of Grantham and Thorold Townships has a population of 95,577. Located on the Welland Canal, the City is served by the C.N.R. and by the Niagara, St. Catharines and Toronto Railway, by the Queen Elizabeth Way, Highways Nos. 8 and 58 and by the St. Catharines Municipal Airport.

St. Catharines is the industrial hub of the County of Lincoln. The City contributed about one-half of the County's value of factory shipments in 1960 and contained its largest manufacturing establishments. North America's most diversified automotive parts producer — and the Region's largest employer outside Hamilton — is the McKinnon Industries Limited, which employs about 5,300 workers in its two St. Catharines plants. The City is a major centre for the Metal Fabricating Industries. The City's second largest employer — Thompson Products, Limited — is also engaged in the manufacture of automotive parts. Three of the larger firms in this group are Foster Wheeler, Limited, The Anthes-Imperial Company, Limited and the Conroy Manufacturing Company. Some 1,200 workers are employed by these three establishments in the production of boilers, furnaces and fabricated structural metal. Expansion by commercial enterprises in the City was well over \$1 million in 1962.

Each year, the Blossom Festival in the Spring and the Grape Festival in the Fall are colourful events which attract large numbers of visitors to the City which is the centre of these activities.

The City of St. Catharines has been chosen as the site for the second university in the Niagara Region. Brock University will be located on 550 acres at a point on top of the Escarpment at the southern limits of St. Catharines. The Council of the City of St. Catharines has contributed \$400,000 for the purchase of land for the University.

Grimsby Town (5,148) is Lincoln's largest centre outside of St. Catharines. The Town is located on the site of the "Battle of the Forty", which took place on June 8, 1813. It is served by the C.N.R. and by Highway No. 8 and the Queen Elizabeth Way. Surrounded by choice fruit-growing lands, many of its industries are directly connected with fruit production. Baskets and crates are made by one of the Town's largest employers, The Canadian Wood Products, Ltd.; Arkell Foods Limited have a canning plant which absorbs a large proportion of the summer labour force while Grimsby Wines are engaged in the production of wines. Various other products are manufactured in Grimsby. These include electronic guns for television picture tubes at the Canadian Westinghouse Company, Limited plant, hospital equipment by Metal Craft Company Ltd., and electric equipment by Brock Snyder. The Town's most recent manufacturer is Roberts Gordon Ltd. which produces air conditioning equipment.

Niagara Town (2,712) is situated at the mouth of the Niagara River, 12 miles northeast of the City of St. Catharines and 10 miles north of Niagara Falls. The Town has been the scene of a number of historic moments in the past and today, a number of sites bear testimony to these events. These include Fort George built in 1796 by John Graves Simcoe and restored between 1939 and 1940 as a historical museum, Fort Mississauga erected in 1814, Butler's Barracks and Butler's Burying Ground which are connected with Col. John Butler and his rangers who were active in the American Revolution on the side of the Crown, Navy Hall where the first Parliament in Upper Canada was held in 1792,

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and the MacFarland House which was built in 1800 and used as a hospital during the War of 1812. The House is now operated as a museum.

The Town has a small, but growing manufacturing sector. Some of the largest manufacturing employers in the Town and its environs are Lakeshore Canning Company, Shepherd Boats Limited, Genaire Limited and William Greaves who produces marmalade and jams.

Camping and training grounds of the Militia Unit in Central and Southern Ontario are located at Niagara-on-the-Lake. Approximately 400 acres are used by Militia Units and the regular army for special and regular training camps.

Beamsville (2,537) located on Highway No. 8 is centrally situated in the fruit-growing areas of the Peninsula. In 1960, the 10 manufacturing establishments in the Village shipped goods which were valued at \$1.5 million.

WELLAND COUNTY

Welland County comprising 387 square miles, forms the south-easterly portion of the Peninsula on Lake Erie. The name "Welland" which was probably taken from the Welland River in Lincolnshire, England has been given not only to the County but to a City, a River and later the Canal.

The County's population, which now stands at 164,741, is expected to reach an estimated 256,000 by 1981, 55 per cent more than the present total. Most of the labour force is employed in diversified manufacturing industries which flourish in the County.

The County's 1,494 farms occupy 125,707 acres of land or approximately one-half of the total land area. This is the only County in the Region in which the land area is evenly divided between agricultural and non-agricultural uses. Approximately 57 per cent of the County's farms are commercial. Dairy farms occupied 35 per cent of the total commercial farms, fruit and vegetables 22 and livestock 19 per cent. Although there are comparatively few farms in Welland, they have a high level of mechanization — over 98 per cent have electric power, 84 per cent have tractors, 76 per cent have automobiles, 56 per cent are equipped with motor trucks and 41 per cent have electric motors.

Welland County is the second largest producer of manufactured goods in the Niagara Region. In 1960, its 297 establishments shipped goods valued at \$628 million. Seventy-four of the 297 establishments in the County are in the Foods and Beverages Industries group whose factory shipments were almost \$66 million in 1960. The Paper Industries group is next in importance with eight establishments which shipped products valued at more than \$60 million in 1960. The Primary Metals and the Metal Fabricating, two major industrial groups, are of special significance to the County's economy.

Welland County's 44,023 occupied dwellings represent an increase of 36 per cent over the 1951 figure. Of these, 41,925 had bath facilities, 43,630 had



Courtesy — Nick Bogner, Welland.

Atlas Steels' Administration Building at Welland is Canada's first all-stainless steel curtain wall structure.

refrigeration, 6,451 had home freezers, 43,560 had telephones, 41,170 had television and 35, 558 had passenger automobiles.

City of *Welland* (36,000), the county seat of Welland, is located on the Welland Canal in the heart of the County. It is served by Highways Nos. 3A and 58, by the T.H. & B., N.Y.C. and the C.N.R.

In 1946, 52 firms produced \$52 million worth of manufactured goods and in 1960, the City's 51 firms shipped goods valued at \$86 million. These industries employed approximately 3,950 persons who earned \$17 million in wages and salaries. The City of Welland is Canada's foremost producer of specialty steel. Atlas Steels Company which produces stainless and specialty steel and Page-Hersey Tubes, Limited which manufactures pipe and tubular products are Canada's largest producers of their kind as well as Welland's two largest employers. About 4,000 persons are employed by these establishments. Other large employers in the City include Union Carbide Canada Ltd. (1,000), Wabasso Cotton Company (700) and John Deere Ltd. (324).

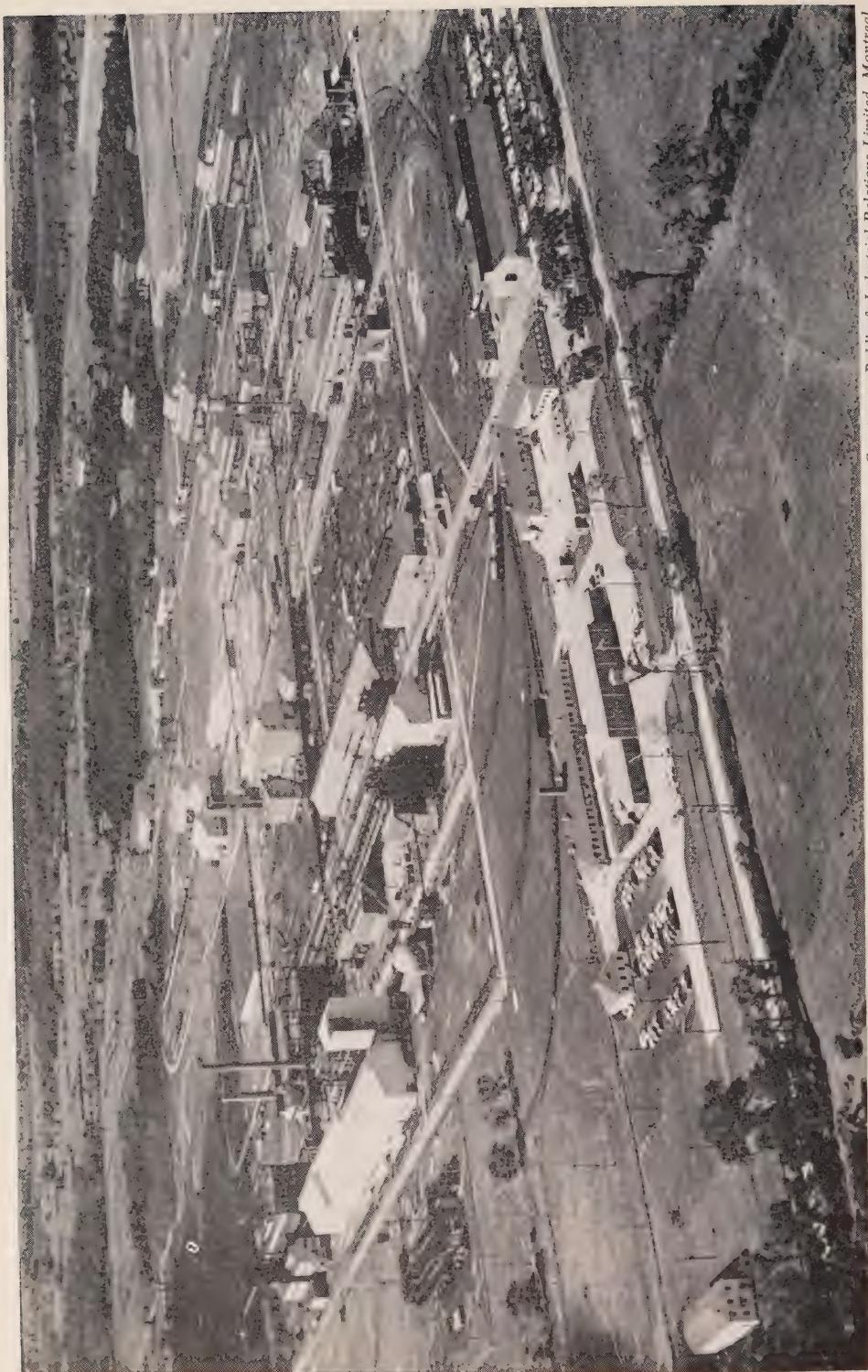
City of *Niagara Falls* is the largest centre in Welland County. Located at the site of the world-famous tourist mecca, the City is the world's best known address. It is served by the Queen Elizabeth Way, Highways Nos. 8 and 20, by the C.N.R. and N.Y.C.

Although the 1961 Census gives the City's population as 22,351, the merging with it of the Township of Stamford in 1963, increased the population to 53,000. The City accounts for approximately one-third of the population of the County.

The City's involvement with the tourist industry is greater than that of any other centre in the Region. Tourism permeates the entire fabric of the City's economy as it directly affects employment, the service industries, retailing and construction. Although tourism is considered to be Niagara Falls' largest single industry, manu-

Courtesy — Public & Industrial Relations Limited, Montreal.

Aerial view of Cyanamid of Canada Limited's Welland Plant, Niagara Falls.



facturing shipments were in excess of \$62 million in 1960. With the 1963 merger, the volume of manufacturing shipments would have been \$122 million in 1960.

In addition to the Ontario Hydro which employs some 950 persons, the chief employers are Cyanamid of Canada Ltd. which employs 650 persons in its two plants, Canadian Carborundum (500), Kimberly-Clark Canada Ltd. (435) and Provincial Engineering Ltd. (200). There are a number of food processing plants including T. G. Bright & Co. Limited (250), Nabisco Foods Ltd. (215), Bright Canning Co. Ltd. (100), Gerber Products Canada Ltd. (65) and Home Products (40).

In 1961, construction activity for tourist accommodation alone amounted to \$960,000. In that year, 197 dwelling units for residential purposes were started and 182 were completed in the City. Between January, 1962 and April, 1963, the following manufacturing establishments conducted expansion of plant facilities: Gerber Products of Canada Limited, T. G. Bright & Co. Limited, Provincial Engineering Ltd. and Cyanamid of Canada Limited.

Port Colborne is situated at the Lake Erie end of the Welland Canal and is served by Highways No. 3 and No. 58 and the C.N.R. lines to St. Catharines and from Fort Erie to Goderich. The Town's population of 14,886 was augmented by 80 per cent between 1951 and 1961.

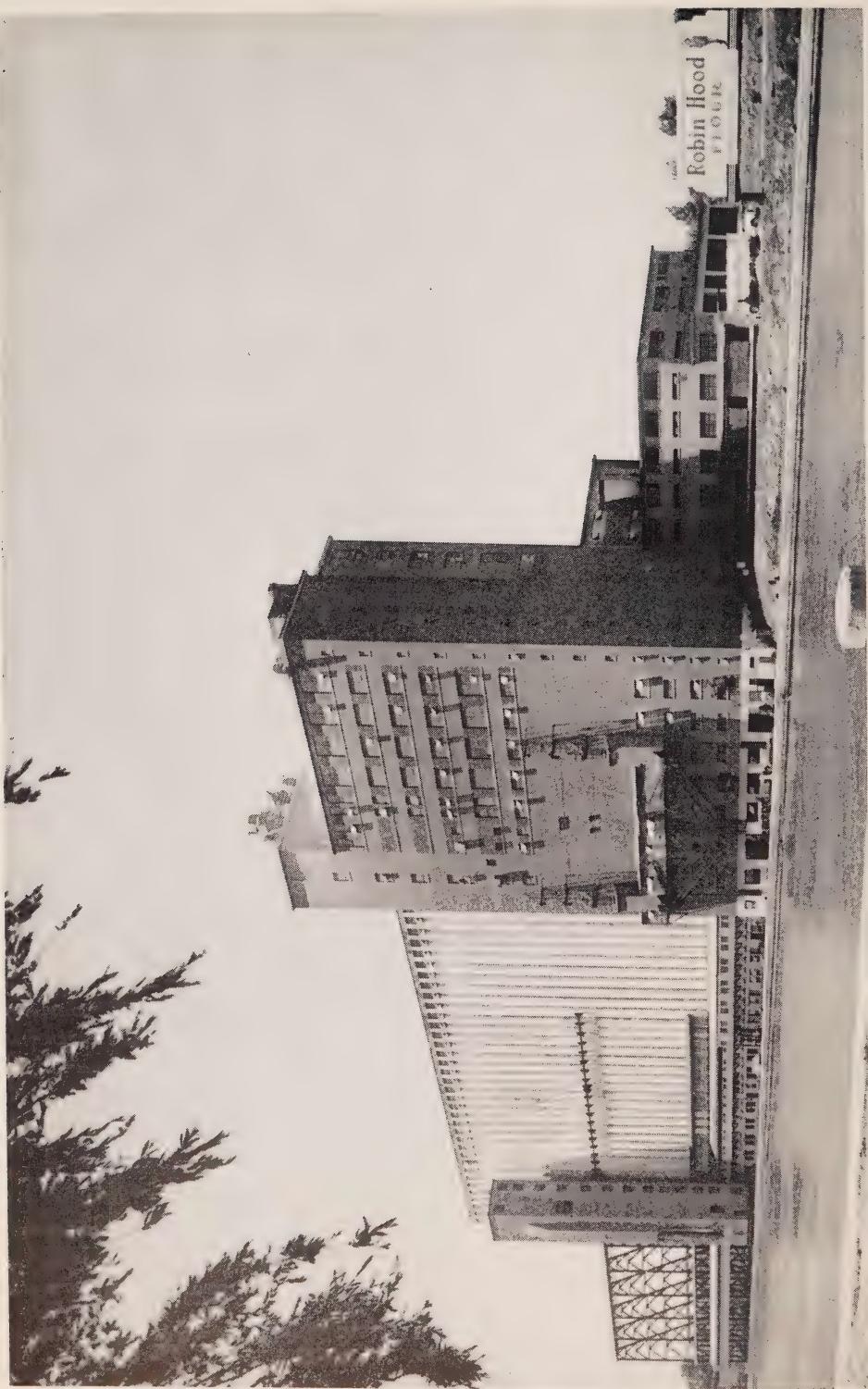
Port Colborne has a fine harbour which is only second in importance to Hamilton harbour. While there has been some decline in the cargo handled at the Port since the opening of the Seaway, cargo handled at this port in 1961 was over 2.9 million cargo tons. Most of this cargo — 1.7 million cargo tons — was handled in coastwise shipping.

Regarded as the milling centre of the Peninsula, the Town is the home of Robin Hood Flour and Maple Leaf Milling. The number of workers employed by these Mills are 260 and 100, respectively. The chief industrial establishment in Port Colborne is the International Nickel Company of Canada Ltd.'s nickel refinery which employs some 2,000 persons. The plant has an annual output capacity of over 200 million pounds of refined nickel and is the world's largest nickel refinery.

The Town of *Thorold* is located five miles south of St. Catharines at the intersection of Highway No. 58 and the Welland Canal. It is served by the C.N.R. and by several trucking companies. The port of Thorold is the third largest in the Niagara Region. In 1961, approximately 711,000 cargo tons were loaded and unloaded at this port.

In 1946, Thorold's 23 manufacturing establishments employed 2,078 persons in the production of goods valued at \$23 million. By 1960, the Town had 18 establishments employing 1,464 and producing \$27 million in goods. While the number of employees has declined, the value of manufacturing output has increased by 17 per cent.

The Town and its environs are foremost in the Region for the production of pulp and paper. The two largest employers in this group are Provincial Paper,



Courtesy — McGlenister & Brisson

Robin Hood Flour Mills Limited, Humberstone at Port Colborne.

Limited with 855 employees and Beaver Wood Fiber Co., Limited with 366 workers. The latter is located in the Township. Other large manufacturers include Domtar, Ltd. and Thorold Pulp Co. Ltd.

The Town of *Fort Erie* is located on the site of the French stockade which was built about 1750. The Fort was given its present name in 1764 when a British fort was established to replace the abandoned French stockade. The present Fort Erie was erected just prior to and during the years 1812 to 1814, when the United States and Canada were at war. It was finally restored in a joint effort by the Ontario and Federal Governments and officially opened in July, 1939. The fine collection of antique weapons on display in the museum there is one of the sightseeing attractions of the Town.

Today, the 9,027 inhabitants of this historic Town are engaged in a wide variety of activities. In 1960, its 28 manufacturing establishments employed 900 workers who earned approximately \$3.7 million. Two of the largest employers are Fleet Manufacturing Limited which produces aircraft parts and radar antennas and Horton Steel Works which is engaged in the production of fabricated steel, storage tanks and pressure vessels.

The Village of *Chippawa* which is three miles south of the City of Niagara Falls at the confluence of the Niagara and Welland Rivers, had a population of 3,256 in 1961. Its principal manufacturer is the Norton Company which employs 680 persons in the production of aluminum oxide and silicon carbide abrasives. The Company expects to spend several million dollars in modernizing the plant during the next few years. *Fonthill*, located on Highway No. 20, is served by the C.N.R. The Village has a population of 2,324. *Crystal Beach*, situated on Highway No. 30, is the centre of a summer resort area. The population which stood at 1,886 in 1961 is substantially augmented by temporary residents and tourists during the summer months. The Village has some of the finest beaches on Lake Erie and its Amusement Park is one of the largest in Canada.

HALDIMAND COUNTY

Haldimand County, named after Frederick Haldimand in 1792, is predominantly rural. Agricultural pursuits and the mining of gypsum are the major sources of livelihood. The County covers 488 square miles and has the largest land area of any county in the Region, but its population of 28,197 is the smallest. By 1981, the County's population will be approximately 39,000 — 38 per cent more than the existing number.

The area and the proportion of farm land in Haldimand are higher than in any other county in the Niagara. The 269,237 acres which are devoted to farming represent 86 per cent of its total land area. Approximately 73 per cent of the 2,070 farms are classified as commercial. Over 42 per cent of the 1,502 commercial farms are dairy farms while 33 per cent raise livestock and 12 per cent are occupied in mixed farming. Livestock and poultry on the County's farms were valued at approximately \$10 million, 87 per cent of which was contributed by

cattle. Haldimand accounted for 30 per cent of the Region's cattle in 1961. The high level of mechanization of Haldimand's farms is illustrated by the fact that 98 per cent have electricity, 88 per cent are equipped with tractors, 86 per cent have automobiles and 64 per cent have electric motors.

Of the County's 7,711 occupied dwelling units in 1961, over three-quarters were owner-occupied and approximately 67 per cent were in good condition. Almost all homes have refrigeration, 84 per cent have automobiles, 87 per cent television and 77 per cent telephones. A higher proportion of homes in Haldimand (over one-quarter) are equipped with home freezers than any other county in the Region.

Although Haldimand's economy is basically agricultural, approximately one-quarter of the labour force was employed in the manufacturing industries. Its 54 manufacturing establishments, mainly textile and knitting mills, shipped goods valued at over \$25 million. These light industries absorb a large number of the female labour force who are not occupied with agriculture. The total number of manufacturing establishments in Haldimand has remained practically constant over the previous 15 years, although the selling value of factory shipments has doubled. During this period, the number of employees was augmented by over one-fifth.

In 1960, one-half of the County's establishments were engaged in the production of foods and beverages. These contributed one-fifth of the total value of manufacturing industries. Four cheese and butter factories were the most important, accounting for \$3 million.

About four square miles of the County's land area forms part of the Six Nations Indian Reserve. The Grand River flows across the County of Haldimand and empties into Lake Erie at Port Maitland and provides the rolling countryside with many picturesque towns and villages as well as quiet sites for nature lovers.

The Town of *Dunnville* (5,181) is Haldimand's largest community as well as the centre of its manufacturing activities. It is located on the Grand River about four miles from Port Maitland at the mouth of the river. The Town is served by the C.N.R., the Toronto, Hamilton and Buffalo Railway as well as by two trucking companies. A small airfield, situated about three miles from the Town, is operated by the R.C.A.F.

Manufacturing establishments range from textiles to fishing equipment and fertilizers within the Dunnville-Port Maitland industrial area. In Dunnville alone 15 manufacturing establishments produced slightly less than half of the County's factory shipments in 1960. The two largest manufacturers in the Town are the Dominion Fabrics Limited and the Monarch Knitting Company Limited. Together, they employ some 1,100 persons.

Although the scale of manufacturing in the Dunnville-Port Maitland area is relatively small, there has been a trend to expansion and diversification in the area's industrial activities. Recently, Sherbrook Metallurgical Company Limited constructed a new zinc sulphide roasting plant in Port Maitland while Electric Reduction Sales Company, Ltd. and Lanark Manufacturing Company have

established branches in the area. The fine harbour at Port Maitland will undoubtedly play an important role in attracting industry to the area.

The Town of *Caledonia* with a population of 2,198 is the second largest centre in the County of Haldimand. Situated at the intersection of Highways Nos. 6 and 54, 17 miles south of Hamilton and 27 miles southwest of Dunnville, it is served by C.N.R. freight service. The Town's largest employer is Domtar Construction Materials Ltd. which employs 160 in the production of gypsum board, gypsum plasters and miscellaneous products. In 1961, a major expansion was completed by the Company. This provided improved manufacturing facilities and increased the capacity of the plant. Other manufacturing establishments include Silverwood Dairies Ltd. and Hartman Metal Fabricators Ltd.

Hagersville (2,075) is situated on Highway No. 6 and is served by the C.N.R., and by a number of trucking companies. In 1960, the Village's seven manufacturing establishments shipped goods valued at \$161,000. The most important of these — Associated Quarries and Construction Company and Haldimand Quarries and Construction Limited — are engaged in sand and gravel quarrying. The Royal Canadian Ordnance Corps' Vehicle Sub-Depot with 283 employees is the largest employer in the Village.

Cayuga (897), the county seat, occupies a central position in the County of Haldimand. Located on the Grand River, at the junction of Highways Nos. 3 and 54, it is served by the C.N.R. and by N.Y.C. The Village which derives its name from a famous tribe of Six Nations Indians, is a centre of agricultural and natural gas drilling activities. Haldimand's Historical Society Museum which is located in the Court House has a good display of Indian relics.

Jarvis (783) is at the junction of Highways Nos. 3 and 6, 32 miles southwest of the City of Hamilton, and 30 miles west of Dunnville. The Village is served by the C.N.R. and by several trucking firms. Marshall Dairy, producing milk, butter, cream and powdered milk from the milk supplied by the dairy farms nearby, is the largest employer in the Village.

TOWN OF BURLINGTON

Burlington was incorporated as a Town in 1914. Today, this 53,750-acre Town is the home of 47,000 persons. It is served by Highways Nos. 2, 5 and 6, the Queen Elizabeth Way, the C.N.R. and the C.P.R.

Burlington is predominantly a residential area. There are 12,299 occupied dwellings, most of which are owner-occupied and of the single detached type. The Town's most outstanding historic site is the home of Captain Joseph Brant which has been re-created on its original foundation. This structure, one of the finest examples of early architecture in Ontario, is now used as a museum.

In 1960, some 48 establishments employed 1,898 persons in the production of goods which were valued at \$36 million. Over \$7.4 million was paid in wages and salaries to the Town's manufacturing employees in 1960. Construction will begin

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late this year on a Research Institute of the Steel Company of Canada. Research on the properties of steel and the concept of plant operations will be conducted here. The cost of the project will be approximately \$2 million and its initial staff will have some 25 persons.

Conclusion

This report outlines and identifies the principal historic, geographic and current economic features of the Niagara Region. The physical features which were created by geological evolution have largely dictated the pattern of the existing economic activity. Fruit-growing, dairy-farming, hydro-electric power production and the mining of natural gas and structural materials are all a direct outgrowth of the Region's physical history. Its geographic location has been directly responsible for its colourful history as a Canadian frontier as well as for the development of an industrial complex which contributes over one-fifth of the Province's manufacturing output. The value of the Niagara's manufacturing production is the largest of any region outside the Metropolitan Region.

The population has consistently increased at a faster pace than the Province as a whole. This rate of growth is expected to continue and the population, which now stands at approximately 762,300, is estimated to reach 1.2 million in 1981. The major portion of the increase will be contributed by natural increase. Over 82 per cent of the Region's inhabitants now live in urban areas. If this trend continues, almost one million will be urban dwellers in 1981.

Manufacturing output in 1960 was approximately 30 per cent above that in 1951. During this period, factory shipments reached a peak in 1959 and decreased slightly to a value of \$2.1 billion in 1960. Over 39 per cent of the labour force is employed by these industries.

Manufacturing activity in the Region is of a highly diversified nature. Led by the iron and steel industry it includes the production of metal products, transportation equipment, chemical and chemical products, paper, electrical products, non-metallic minerals, textiles, foods and beverages, printing and publishing, wood and furniture, tobacco and rubber. The most aggressive expansion in economic activity has been displayed by the iron and steel industry but there has been some contraction in the clothing industry. One of the striking features of manufacturing in the Niagara Region is the stability of its industries. Firms tend to expand their activities within the Region rather than move to other locations outside. This suggests that the prime requirements of industry — land, labour, capital, transportation and communications — create a very favourable climate here for growth and expansion.

Hydro-electric power, which provided a strong stimulus to industry at the turn of the century, is still produced in large quantities. Six generating stations in the Region represent approximately 43 per cent of the total installed capacity of hydro-electric power in Ontario. Natural gas (partly produced within the area), coal, gas and petroleum oils are readily available to all parts of the area.

The Region's agriculture is based upon livestock, dairying, fruit and vegetable production and to a lesser extent, mixed farming. While there has been some decline in mixed farming, livestock and dairying activities have exhibited noticeable expansions. At the present time, the fruit-growing industry is faced with a series of problems which tend to reduce the income of the farmer. Urbanization is a prime factor in the decline of the fruit-farming area. Although the production of fruit

continues to increase in the face of these difficulties, this trend is not expected to occur indefinitely as, sooner or later, declining acreage will result in decreasing production.

An ambitious program of road and highway expansion, bridge and skyway building launched recently is well underway. By the end of the year, the Region will have the Province's two skyways and will be richly endowed with four-lane controlled-access highways. Already, the Region on average has more railway track per acre than any other Region in Canada. Water transportation has played an important role in the Region's economy and today its ports and the Welland Canal are indispensable parts of the Region's transportation system. Plans to twin the remaining locks on the Canal, soon to be implemented, will undoubtedly enhance the role of water transportation in the Region. The Niagara is perhaps one of the few regions in which trucking activities have attained a prominent position in the transportation sector.

The presence of a strong service industry led by tourism provides extra confidence in the Region's future. The expansion of this industry in the past decade is illustrated by the fact that employment in these industries increased more rapidly than in any other sector of the economy. The Region's natural beauty which has been fostered in areas such as the Niagara Parks and highlighted by such events as the Blossom Festival and the Grape and Wine Festival in St. Catharines together with the preservation of its long and colourful history provide perennial attractions for tourists. Steel production and the generation of hydro-electric power are two of the industrial activities which have long provided a special interest for sight-seers.

In addition to the Region's many institutions for primary and secondary education, McMaster University in Hamilton has offered facilities for higher education to the Region's inhabitants since 1887. Recently, it was announced that Brock University in St. Catharines would be added to the Region's list of institutions for learning. Other special institutions of study and research include The Niagara Parks Commission School of Gardening and Vineland Horticultural Experiment Station. Research into the properties of iron and steel will begin shortly at Stelco Research Laboratory in the Town of Burlington.

Our examination of the basic factual data relating to the primary and secondary industries reveals two major factors. The first is that the Niagara Region possesses a very diversified economic base with increasing production from industries and farms which are firmly entrenched in a strong, dynamic economy. The Region's economy which embraces a vibrant manufacturing section with a hard core of primary industry, a wide range of agricultural activities with unique features in the fruit-growing sector and a flourishing service industry spearheaded by the tourist trade, thrives in an environment which offers an energetic and versatile work force, a good supply of the major forms of energy and power, as well as efficient systems of communication and transportation. The second is that the Region has exhibited steady economic growth and expansion in the major sectors of the economy with the result that it has held its position as the second largest contributor to Ontario's

Gross Provincial Product. This rate of growth and expansion must be maintained and even accelerated to keep pace with the expected increase in population during the next two decades. Our study reveals that the ingredients for further growth and expansion are already present in the economy of the Region. We fully expect that the industrious and progressive people of the Region will employ their skill and ingenuity in the solution of the existing problems and that the Niagara Region will attain new heights of prosperity in the future.

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POPULATION

POPULATION OF THE NIAGARA REGION,
COUNTIES, CENSUS YEARS 1901 TO 1961

	1901	1911	1921	1931	1941	1951	1961	% Change 1961/ 1961/ 1901 1951
A — Burlington								
Brant	38,140	45,876	53,377	53,476	56,695	72,857	83,839	119.8 15.1
Wentworth	79,452	111,706	153,567	190,019	206,721	266,083	358,837	351.6 34.9
Sub-total	117,592	157,582	206,944	243,495	263,416	338,940	442,676	276.5 30.6
B — Niagara								
Haldimand	21,233	21,562	21,287	21,428	21,854	24,138	28,197	32.8 16.8
Lincoln	30,552	35,429	48,625	54,199	65,066	89,366	126,674	314.6 41.7
Welland	31,588	42,163	66,668	82,731	93,836	123,233	164,741	421.5 33.7
Sub-total	83,373	99,154	136,580	158,358	180,756	236,737	319,612	283.4 35.0
Total, Niagara Region	200,965	256,736	343,524	401,853	444,172	575,677	762,288	279.3 32.4
Total, Ontario	2,182,947	2,527,292	2,933,662	3,431,683	3,787,655	4,597,542	6,236,092	185.7 35.6
Niagara as % of Ontario	9.2	10.2	11.7	11.7	11.7	12.5	12.2	

POPULATION OF THE NIAGARA REGION,
INCORPORATED CITIES, TOWNS AND VILLAGES,
CENSUS YEARS 1901¹ TO 1961

	1901	1911	1921	1931	1941	1951	1961	% Change 1961/ 1961/ 1901 ¹ 1951
A — Burlington								
Brant								
Brantford	16,619	23,132	29,440	30,107	31,948	36,727	55,201	232.2 50.3
Paris	3,229	4,098	4,368	4,137	4,637	5,249	5,820	80.2 10.9
Wentworth								
Burlington Beach	—	—	—	—	2,049	2,827	—	—
Dundas	3,173	4,299	4,978	5,026	5,276	6,846	12,912	306.9 88.6
Hamilton	52,634	81,969	114,151	155,547	166,337	208,321	273,991	420.6 31.5
Stoney Creek	—	—	—	877	1,007	1,922	6,043	— 214.4
Waterdown	622	756	754	921	910	1,347	1,844	196.5 36.9
B — Niagara								
Haldimand								
Caledonia	801	952	1,223	1,396	1,401	1,681	2,198	174.4 30.8
Cayuga	771	736	784	721	709	719	897	16.3 24.8
Dunnville	2,105	2,861	3,224	3,405	4,028	4,478	5,181	146.1 15.7
Hagersville	1,020	1,106	1,169	1,385	1,455	1,746	2,075	103.4 18.8
Jarvis	—	510	485	506	591	652	783	— 20.1
Lincoln								
Beamsville	832	1,096	1,256	1,203	1,309	1,712	2,537	204.9 48.2
Grimsby	1,001	1,669	2,004	2,198	2,331	2,773	5,148	414.3 85.6
Merriton	1,710	1,670	2,544	2,523	2,993	4,714	—	—
Niagara	1,258	1,318	1,357	1,228	1,541	2,108	2,712	115.6 28.7
Port Dalhousie	1,125	1,152	1,492	1,547	1,723	2,616	—	—
St. Catharines	9,946	12,484	19,881	24,753	30,275	37,984	84,472	749.3 122.4
Welland								
Chippawa	460	707	1,137	1,266	1,385	1,762	3,256	607.8 84.8
Crystal Beach	—	—	298	661	618	1,204	1,886	— 56.6
Fonthill	—	—	—	863	1,000	1,412	2,324	— 64.6
Fort Erie	2,246	2,916	3,947	5,904	6,595	7,572	9,027	301.9 19.2
Humberstone	—	—	1,524	2,490	2,963	3,895	—	—
Niagara Falls	4,244	9,248	14,764	19,046	20,589	22,874	22,351	426.6 —2.3
Port Colborne	1,253	1,624	3,415	6,503	6,993	8,275	14,886	1,088.0 79.9
Thorold	1,979	2,273	4,825	5,092	5,305	6,397	8,633	336.2 35.0
Welland	1,863	5,318	8,654	10,709	12,500	15,382	36,079	1,836.6 134.6

¹Or the earliest year given.

Note: Population figures for any given year are based on the areas of the cities, towns and villages as incorporated at that date. In many cases, figures for earlier years would not correspond with the 1951 and 1956 areas due to later annexations. As only incorporated cities, towns and villages are covered by this table, some of the municipalities may have had, in the dates shown blank, a population which would be included with the data for the township containing the municipality.

POPULATION BY AGE GROUPS,
COUNTIES, NIAGARA REGION, JUNE 1, 1961

POPULATION

	Total	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70+	Median Age
A—Burlington													
Brant	No.	83,839	9,002	8,948	8,616	6,267	4,901	10,201	11,189	9,725	6,848	2,691	5,451
%		(100.0)	(10.7)	(10.3)	(10.7)	(7.5)	(5.8)	(12.2)	(13.3)	(11.6)	(8.2)	(3.2)	(6.5)
Wentworth	No.	358,837	41,790	37,680	32,774	23,931	21,271	51,906	52,905	39,528	27,979	10,403	18,670
%		(100.0)	(11.6)	(10.5)	(9.1)	(6.7)	(5.9)	(14.5)	(14.7)	(11.0)	(7.8)	(2.9)	(5.2)
Sub-total	No.	442,676	50,792	46,628	41,390	30,198	26,172	62,107	64,094	49,253	34,827	13,094	24,121
%		(100.0)	(11.5)	(10.5)	(9.3)	(6.8)	(5.9)	(14.0)	(14.5)	(11.1)	(7.9)	(3.0)	(5.4)
B—Niagara													
Haldimand	No.	28,197	3,199	3,293	2,909	2,266	1,437	3,160	3,336	3,084	2,417	1,045	2,001
%		(100.0)	(11.3)	(11.7)	(10.3)	(8.0)	(5.3)	(11.2)	(11.8)	(10.9)	(8.6)	(3.7)	(7.1)
Lincoln	No.	126,674	14,495	14,167	12,513	9,266	7,248	16,457	18,253	13,964	9,920	3,730	6,661
%		(100.0)	(11.4)	(11.2)	(9.9)	(7.3)	(5.7)	(13.0)	(14.4)	(11.0)	(7.8)	(2.9)	(5.3)
Welland	No.	164,741	19,090	18,675	16,964	12,136	9,386	22,196	23,679	17,297	12,792	4,761	7,765
%		(100.0)	(11.6)	(11.3)	(10.3)	(7.4)	(5.7)	(13.5)	(14.4)	(10.5)	(7.8)	(2.9)	(4.7)
Sub-total	No.	319,612	36,784	36,135	32,386	23,668	18,121	41,813	45,268	34,345	25,129	9,536	16,427
%		(100.0)	(11.5)	(11.3)	(10.1)	(7.4)	(5.7)	(13.1)	(14.2)	(10.7)	(7.9)	(3.0)	(5.1)
Total, Niagara Region	No.	762,288	87,576	82,763	73,776	53,866	44,293	103,920	109,362	83,598	59,956	22,630	40,548
%		(100.0)	(11.5)	(10.9)	(9.7)	(7.1)	(5.8)	(13.6)	(14.3)	(11.0)	(7.9)	(3.0)	(5.3)
Total, Ontario	No.	6,236,092	740,193	674,519	593,037	436,883	386,966	882,476	866,563	670,544	476,838	180,063	328,010
%		(100.0)	(11.9)	(10.8)	(9.5)	(7.0)	(6.2)	(14.2)	(13.9)	(10.8)	(7.6)	(2.9)	(5.3)

Note: Due to rounding, percentages may not add to 100.

POPULATION BY SEX,
COUNTIES, NIAGARA REGION, JUNE 1, 1951 AND 1961

	1951				1961			
	Total Population No.	Male No.	Female No.	Males to 100 Females	Total Population No.	Male No.	Female No.	Males to 100 Females
A — Burlington								
Brant	72,857	36,405	36,452	100	83,839	41,684	42,155	99
Wentworth	266,083	132,404	133,679	99	353,837	178,537	180,300	99
Sub-total	338,940	168,809	170,131	99	442,676	220,221	222,455	99
 B — Niagara								
Haldimand	24,138	12,282	11,856	104	28,197	14,270	13,927	102
Lincoln	39,366	44,842	44,524	101	126,674	63,326	63,348	100
Welland	123,233	62,843	60,390	104	164,741	82,722	82,019	101
Sub-total	236,737	119,967	116,770	103	319,612	160,318	159,294	101
 Total, Niagara Region	575,677	288,776	286,901	101	762,288	380,539	381,749	100
Total, Ontario	4,597,542	2,314,170	2,283,372	101	6,236,092	3,134,528	3,101,564	101

**POPULATION BY MARITAL STATUS,
COUNTIES, NIAGARA REGION, JUNE 1, 1961**

		Total	Single	Married	Widowed	Divorced
A — Burlington						
Brant	No.	83,839	38,990	40,258	4,320	271
	%	(100.0)	(46.5)	(48.0)	(5.2)	(0.3)
Wentworth	No.	358,837	164,975	175,018	17,255	1,589
	%	(100.0)	(46.0)	(48.8)	(4.8)	(0.4)
Sub-total	No.	442,676	203,965	215,276	21,575	1,860
	%	(100.0)	(46.1)	(48.6)	(4.9)	(0.4)
B — Niagara						
Haldimand	No.	28,197	13,598	13,063	1,496	40
	%	(100.0)	(48.2)	(46.3)	(5.3)	(0.2)
Lincoln	No.	126,674	59,296	61,236	5,728	414
	%	(100.0)	(46.8)	(48.4)	(4.5)	(0.3)
Welland	No.	164,741	77,728	79,076	7,458	479
	%	(100.0)	(47.2)	(48.0)	(4.5)	(0.3)
Sub-total	No.	319,612	150,622	153,375	14,682	933
	%	(100.0)	(47.1)	(48.0)	(4.6)	(0.3)
Total, Niagara Region	No.	762,288	354,587	368,651	36,257	2,793
	%	(100.0)	(46.5)	(48.4)	(4.7)	(0.4)

**BIRTHS, MARRIAGES AND DEATHS,
COUNTIES, NIAGARA REGION, 1951, 1956 AND 1961**

		Births ¹		Marriages		Deaths	
		No.	Rate Per 1,000 Population	No.	Rate Per 1,000 Population	No.	Rate per 1,000 Population
A — Burlington							
Brant	1951	1,891	26.0	625	8.6	760	10.4
	1956	1,875	24.0	617	7.9	782	10.0
	1961	1,851	22.1	603	7.2	789	9.4
Wentworth	1951	6,620	24.9	2,889	10.9	2,454	9.2
	1956	8,430	26.7	2,790	8.8	2,608	8.2
	1961	8,549	23.8	2,645	7.4	2,801	7.8
Sub-total	1951	8,511	25.1	3,514	10.4	3,214	9.5
	1956	10,305	26.1	3,407	8.6	3,390	8.6
	1961	10,400	23.5	3,248	7.3	3,590	8.1
B — Niagara							
Haldimand	1951	551	22.8	195	8.1	271	11.2
	1956	616	23.6	163	6.3	263	10.1
	1961	688	24.4	149	5.3	298	10.6
Lincoln	1951	2,170	24.3	832	9.3	793	8.9
	1956	2,921	26.1	877	7.8	903	8.1
	1961	2,858	22.6	777	6.1	992	7.8
Welland	1951	3,117	25.3	1,349	10.9	1,014	8.2
	1956	3,910	26.1	1,254	8.4	1,209	8.1
	1961	3,918	23.8	1,079	6.5	1,200	7.3
Sub-total	1951	5,838	24.7	2,376	10.0	2,078	8.8
	1956	7,447	25.9	2,294	8.0	2,375	8.3
	1961	7,464	23.4	2,005	6.3	2,490	7.8
Total, Niagara Region	1951	14,349	24.9	5,890	10.2	5,292	9.2
	1956	17,752	26.0	5,701	8.4	5,765	8.5
	1961	17,864	23.4	5,253	6.9	6,080	8.0

¹Live births only.

Note: For 1951, births, marriages and deaths are by place of residence. For 1956 and 1961, births are by place of residence of mothers, marriages by place of occurrence and deaths by place of residence.

RURAL-URBAN DISTRIBUTION OF POPULATION,
COUNTIES, NIAGARA REGION, CENSUS YEARS 1921, 1951 AND 1961

	1921			1951			1961		
	Total		Rural	Urban			Total	Rural	Urban
	No.	%				(No.)	(%)	(No.)	(%)
A — Burlington	53,377	19,569	33,808	72,857	24,052	48,805	83,839	20,204	63,635 (75.9)
Brant	(100.0)	(36.7)	(63.3)	(100.0)	(33.0)	(67.0)	(100.0)	(24.1)	
Wentworth	153,567	33,684	119,883	266,083	15,725	250,358	358,837	34,496 (9.6)	324,341 (90.4)
Sub-total	No.	(100.0)	(21.9)	(78.1)	(100.0)	(5.9)	(94.1)	(100.0)	
B — Niagara	206,944	53,253	153,691	338,940	39,777	299,163	442,676	54,700	387,976 (87.6)
Haldimand	No.	(100.0)	(25.7)	(74.3)	(100.0)	(11.7)	(88.3)	(100.0)	(12.4)
Lincoln	No.	(100.0)	(41.3)	(58.7)	(100.0)	(41.9)	(58.1)	(100.0)	(25.1) (66.5) (33.5)
Welland	No.	(100.0)	(42.2)	(57.8)	(100.0)	(26.4)	(73.6)	(100.0)	164,741 (18.9) 31,083 (81.1)
Sub-total	No.	(100.0)	(45.8)	(54.2)	(100.0)	(36.4)	(63.6)	(100.0)	319,612 (25.5) 81,631 (74.5)
Total, Niagara Region	No.	(100.0)	(33.7)	(66.3)	(100.0)	(21.9)	(78.1)	(100.0)	762,288 (17.9) 136,331 (82.1)
Total, Ontario	No.	(100.0)	(41.8)	(58.2)	(100.0)	(29.3)	(70.7)	(100.0)	6,236,092 (22.7) 1,412,563 (77.3) 4,832,529 (77.3)

DETAILED RURAL-URBAN DISTRIBUTION OF POPULATION,
COUNTIES, NIAGARA REGION, JUNE 1, 1961

	Total Population	Rural		Urban		
		Farm		Non-Farm		30,000 to 99,999
		Total	Farm	Total	100,000 and over	10,000 to 29,999
A— Burlington						
Brant	83,839	20,204	7,974	12,230	63,635	—
Wentworth	358,837	34,496	8,762	25,734	324,341	—
Sub-total	442,676	54,700	16,736	37,954	387,976	56,741
B— Niagara						
Haldimand	28,197	18,743	8,900	9,843	9,454	—
Lincoln	126,674	31,805	12,180	19,625	94,869	—
Welland	164,741	31,083	6,415	24,668	133,658	—
Sub-total	319,612	81,631	27,495	54,136	237,981	—
Total, Niagara Region	762,288	136,331	44,231	92,100	625,957	324,341
Total, Ontario	6,236,092	1,412,563	505,699	906,864	4,823,529	934,870
Niagara as % of Ontario	12.2	9.7	8.7	10.2	13.0	11.0

POPULATION

POPULATION BY OFFICIAL LANGUAGE,
COUNTIES, NIAGARA REGION, JUNE 1, 1961

		Total	English Only	French Only	English and French	Neither English nor French
A — Burlington						
Brant	No.	83,839	81,364	78	1,873	524
	%	(100.0)	(97.0)	(0.1)	(2.2)	(0.6)
Wentworth	No.	358,837	340,436	608	12,107	5,686
	%	(100.0)	(94.9)	(0.2)	(3.4)	(1.6)
Sub-total	No.	442,676	421,800	686	13,980	6,210
	%	(100.0)	(95.3)	(0.2)	(3.2)	(1.4)
B — Niagara						
Haldimand	No.	28,197	27,683	18	375	121
	%	(100.0)	(98.2)	(0.1)	(1.3)	(0.4)
Lincoln	No.	126,674	120,224	231	4,989	1,230
	%	(100.0)	(94.9)	(0.2)	(3.9)	(1.0)
Welland	No.	164,741	149,352	1,646	11,557	2,186
	%	(100.0)	(90.7)	(1.0)	(7.0)	(1.3)
Sub-total	No.	319,612	297,259	1,895	16,921	3,537
	%	(100.0)	(93.0)	(0.6)	(5.3)	(1.1)
Total, Niagara Region	No.	762,288	719,059	2,581	30,901	9,747
	%	(100.0)	(94.3)	(0.3)	(4.1)	(1.3)

Note: Due to rounding, percentages may not add to 100.

CANADIAN-BORN POPULATION
AND IMMIGRANT POPULATION BY IMMIGRATION PERIOD,
COUNTIES, NIAGARA REGION, JUNE 1, 1961

		Total 1961	Canadian Born	Total	Non-Canadian Born Period of Immigration				
					Before 1921	1921-30	1931-40	1941-50	1951-61 ¹
A — Burlington									
Brant	No.	83,839	67,832	16,007	4,742	3,079	673	2,272	5,241
	%	(100.0)	(80.9)	(19.1)					
Wentworth	No.	358,837	256,573	102,264	22,034	16,190	3,030	14,411	46,599
	%	(100.0)	(71.5)	(28.5)					
Sub-total	No.	442,676	324,405	118,271	26,776	19,269	3,703	16,683	51,840
	%	(100.0)	(73.3)	(26.7)					
B — Niagara									
Haldimand	No.	28,197	24,486	3,711	849	632	174	699	1,357
	%	(100.0)	(86.8)	(13.2)					
Lincoln	No.	126,674	93,192	33,482	6,531	6,503	1,351	5,639	13,458
	%	(100.0)	(73.6)	(26.4)					
Welland	No.	164,741	123,943	40,798	8,328	8,164	2,006	5,340	16,960
	%	(100.0)	(75.2)	(24.8)					
Sub-total	No.	319,612	241,621	77,991	15,708	15,299	3,531	11,678	31,775
	%	(100.0)	(75.6)	(24.4)					
Total, Niagara Region	No.	762,288	566,026	196,262	42,484	34,568	7,234	28,361	83,615
	%	(100.0)	(74.3)	(25.7)					
Total, Ontario	No.	6,236,092	4,882,935	1,353,157	264,366	198,339	41,959	184,234	664,259
	%	(100.0)	(78.3)	(21.7)					

¹Including the first five months only of 1961.

POPULATION STATISTICS,
TOWN OF BURLINGTON

Census Years 1901 to 1961

	<u>1901</u>	<u>1911</u>	<u>1921</u>	<u>1931</u>	<u>1941</u>	<u>1951</u>	<u>1961</u>	<u>% Change</u>	<u>1961/1901</u>	<u>1961/1951</u>
No.	1,119	1,831	2,709	3,046	3,815	6,017	47,008 ¹		4,100.9	681.3

¹Nelson Twp. and part of Flamborough East Twp. were annexed Jan. 1, 1958.

By Age Groups, June 1, 1961

No.	Total	Age Group											Median Age
		0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-69	70+	
47,008	6,230	5,710	4,866	3,122	2,186	7,182	7,623	4,860	2,672	952	1,605	27.1	
(100.0)	(13.3)	(12.1)	(10.4)	(6.6)	(4.7)	(15.3)	(16.2)	(10.3)	(5.7)	(2.0)	(3.4)		

By Sex, June 1, 1951 and 1961

1951				1961			
Total Population	Male	Female	Males to 100 Females	Total Population	Male	Female	Males to 100 Females
6,017	2,953	3,064	96	47,008	23,647	23,361	101

By Marital Status, June 1, 1951 and 1961

	1951	1961	Total	Single	Married	Widowed	Divorced
			No.	No.	No.	No.	No.
	No.	No.	6,017	2,518	3,164	323	12
	%	(100.0)	(100.0)	(41.8)	(52.6)	(5.4)	(0.2)
	No.	No.	47,008	22,288	23,263	1,351	106
	%	(100.0)	(47.4)	(49.5)	(49.5)	(2.9)	(0.2)

By Official Language, June 1, 1951 and 1961

	1951	1961	Total	English Only	French Only	English and French	Neither English nor French
			No.	No.	No.	No.	No.
	No.	No.	6,017	5,775	3	209	30
	%	(100.0)	(96.0)	(96.0)	*	(3.5)	(0.5)
	No.	No.	47,008	45,219	56	1,485	248
	%	(100.0)	(96.2)	(96.2)	(0.1)	(3.2)	(0.5)

*Less than 0.05 per cent.

Canadian-Born Population and Immigrant Population by Immigration Period, June 1, 1961

	Total 1961	Canadian- Born	Total	Non-Canadian Born Period of Immigration			
				Before 1921	1921-30	1931-40	1941-50
No.	47,008	36,670	10,338	1,848	1,411	398	1,669
%	(100.0)	(78.0)	(22.0)				5,012

¹Including the first five months only of 1961.

Note: Due to rounding, percentages may not add to 100.

POPULATION 15 YEARS AND OVER, IN AND NOT IN THE LABOUR FORCE,
COUNTIES, NIAGARA REGION, JUNE 1, 1961

	Population 15 Years and Over			Labour Force ¹ 15 Years and Over			Labour Force 15 Years and Over as Percentage of Population 15 Years and Over %
	Male		Total	Male		Total	
	No.	Female	No.	No.	Female	No.	
A — Burlington							
Brant	27,977	29,296	57,273	21,812	9,411	31,223	54.5
Wentworth	121,001	125,592	246,593	98,791	39,926	138,717	56.3
Sub-total	148,978	154,888	303,866	120,603	49,337	169,940	55.9
B — Niagara							
Haldimand	9,483	9,313	18,796	7,637	2,530	10,167	54.1
Lincoln	42,087	43,412	85,499	33,722	12,649	46,371	54.2
Welland	54,842	55,170	110,012	43,136	15,133	58,269	53.0
Sub-total	106,412	107,895	214,307	84,495	30,312	114,807	53.6
Total, Niagara Region	255,390	262,783	518,173	205,098	79,649	284,747	55.0
Percentage Distribution	(49.3)	(50.7)	(100.0)	(72.0)	(28.0)	(100.0)	

¹Excludes a few persons seeking work who have never been employed.

LABOUR FORCE¹ BY INDUSTRY GROUPS, COUNTIES, NIAGARA REGION, JUNE 1, 1951

	All Industries ²	Agriculture	Forestry and Logging	Fishing and Trapping	Mining and Quarrying	Manufacturing	Electricity Gas and Water	Construction	Transportation and Communication	Trade	Finance	Services ³
A — Burlington												
Brant	No.	28,763	2,839	5	3	97	14,586	285	1,415	1,113	3,580	574
	%	(100.0)	(9.9)	*	*	(0.3)	(50.7)	(1.0)	(4.9)	(3.9)	(2.4)	4,045 (14.1)
Wentworth	No.	116,047	3,702	21	3	139	59,573	1,293	7,400	5,687	16,119	2,702 (15.9)
	%	(100.0)	(3.2)	*	*	(0.1)	(51.3)	(1.1)	(6.4)	(4.9)	(13.9)	(2.3) (15.9)
Sub-total	No.	144,810	6,541	26	6	236	74,159	1,578	8,815	6,800	19,639	3,276 (15.6)
	%	(100.0)	(4.5)	*	*	(0.2)	(51.2)	(1.1)	(6.1)	(4.7)	(13.6)	(2.3) (15.6)
B — Niagara												
Haldimand	No.	9,039	2,892	13	146	225	2,113	128	521	436	1,037	126
	%	(100.0)	(32.0)	(0.1)	(1.6)	(2.5)	(23.4)	(1.4)	(5.8)	(4.8)	(11.5)	(1.4) (14.3)
Lincoln	No.	36,268	4,816	31	11	83	15,665	672	2,903	1,659	4,316	739
	%	(100.0)	(13.3)	(0.1)	*	(0.2)	(43.2)	(1.9)	(8.0)	(4.6)	(11.9)	(2.0) (13.8)
Welland	No.	50,310	1,908	16	4	203	24,625	1,870	3,591	3,435	5,435	791
	%	(100.0)	(3.8)	*	*	(0.4)	(48.9)	(3.7)	(7.1)	(6.8)	(10.8)	(1.6) (16.0)
Sub-total	No.	95,617	9,616	60	161	511	42,403	2,670	7,015	5,530	10,788	1,656 (15.0)
	%	(100.0)	(10.1)	(0.1)	(0.2)	(0.5)	(44.3)	(2.8)	(7.3)	(5.8)	(11.3)	(1.7) (15.0)
Total, Niagara Region	No.	240,427	16,157	86	167	747	116,562	4,248	15,830	12,330	30,487	4,932 (15.3)
	%	(100.0)	(6.7)	*	*	(0.1)	(48.5)	(1.8)	(6.6)	(5.1)	(12.7)	(2.1) (15.3)

¹Less than 0.05 per cent.²Excludes a few persons seeking work who have never been employed.³Includes persons not reporting industry.

Includes "Community", "Government", "Recreation" and "Business" service groups.

EMPLOYMENT AND EARNINGS

LABOUR FORCE¹ BY INDUSTRY DIVISIONS, COUNTIES, NIAGARA REGION, JUNE 1, 1961

	All Industries	Agriculture	Fishing and Forestry	Mines, Quarries and Oil Wells	Manufacturing	Construction	Transportation, Communication, and Other Utilities	Trade	Finance, Insurance and Real Estate	Community, Business and Personal Services Industries	Public Administration and Defence	Industry not Stated
A — Burlington												
Brant	No.	31,223 (100.0)	2,853 (9.1)	6 * (0.4)	2 * (0.4)	12,144 (38.9)	1,591 (5.1)	1,602 (14.1)	4,409 (2.6)	5,951 (19.1)	1,141 (2.6)	581 (1.9)
Wentworth	No.	138,717 (100.0)	3,383 (2.4)	34 * (0.2)	55 * (0.2)	56,170 (40.5)	9,823 (7.1)	8,633 (6.2)	21,887 (15.8)	4,428 (3.2)	26,520 (19.1)	4,968 (3.6)
Sub-total	No.	169,940 (100.0)	6,236 (3.7)	40 * (0.2)	57 * (0.2)	68,314 (40.2)	11,414 (6.7)	10,235 (6.0)	26,296 (15.5)	5,245 (3.1)	32,471 (19.1)	6,109 (3.6)
B — Niagara												
Haldimand	No.	10,167 (100.0)	2,474 (24.3)	5 * (0.6)	63 (1.7)	171 (24.3)	2,468 (6.0)	607 (7.9)	799 (13.3)	1,351 (1.7)	172 (1.7)	1,391 (13.7)
Lincoln	No.	46,371 (100.0)	4,399 (9.5)	11 * (0.2)	5 * (0.2)	16,813 (36.3)	3,140 (6.8)	3,029 (6.5)	6,498 (14.0)	1,274 (2.7)	8,626 (18.6)	1,678 (3.6)
Welland	No.	58,269 (100.0)	1,645 (2.8)	11 * (0.6)	4 * (0.6)	22,813 (39.1)	3,607 (6.2)	5,375 (9.2)	7,665 (13.2)	1,286 (2.2)	11,467 (19.7)	2,830 (4.9)
Sub-total	No.	114,807 (100.0)	8,518 (7.4)	27 * (0.1)	72 * (0.5)	594 (36.7)	42,094 (6.4)	7,354 (8.0)	9,203 (13.5)	15,514 (2.4)	2,732 (18.7)	21,484 (4.4)
Total, Niagara Region	No.	284,747 (100.0)	14,754 (5.2)	67 * (0.3)	129 * (0.3)	931 (38.8)	110,408 (6.6)	18,768 (6.8)	19,438 (14.7)	41,810 (2.8)	7,977 (18.9)	53,955 (3.9)
	%											

*Less than 0.05 per cent.
¹Excludes a few persons seeking work who have never been employed.

LABOUR FORCE BY OCCUPATION DIVISIONS, COUNTIES, NIAGARA REGION, JUNE 1, 1961

		Total Occupations	Professional and Technical	Managerial	Clerical	Sales	Service and Recreation	Transport and Communication	Farmers and Farm Workers	Loggers and Related Workers	Fishermen, Trappers and Related Workers	Miners, Quarry-men and Related Workers	Labourers, n.e.s. ²	Craftsmen, Production Process and Related Workers	Occupation Not Stated
A — Burlington															
Brant	No.	31,223	2,611	2,661	3,953	2,093	3,476	1,483	2,907	4	2	28	10,012	1,362	631
	%	(100.0)	(8.4)	(8.5)	(12.7)	(6.7)	(11.1)	(4.7)	(9.3)	*	*	(0.1)	(32.1)	(4.4)	(2.0)
Wentworth	No.	138,717	10,296	12,915	20,011	10,190	15,852	7,910	3,558	28	4	104	47,262	7,819	2,768
	%	(100.0)	(7.4)	(9.3)	(14.4)	(7.3)	(11.4)	(5.7)	(2.6)	*	*	(0.1)	(34.1)	(5.6)	(2.0)
Sub-total	No.	169,940	12,907	15,576	23,964	12,283	19,328	9,393	6,465	32	6	132	57,274	9,181	3,399
	%	(100.0)	(7.6)	(9.2)	(14.1)	(7.2)	(11.4)	(5.5)	(3.8)	*	*	(0.1)	(33.7)	(5.4)	(2.0)
B — Niagara															
Haldimand	No.	10,167	747	608	748	520	923	661	2,466	1	54	114	2,632	550	143
	%	(100.0)	(7.3)	(6.0)	(7.4)	(5.1)	(9.1)	(6.5)	(24.3)	*	(0.5)	(1.1)	(25.9)	(5.4)	(1.4)
Lincoln	No.	46,371	3,842	4,530	5,269	3,164	4,635	2,526	4,475	8	3	46	14,972	2,050	851
	%	(100.0)	(8.3)	(9.8)	(11.4)	(6.8)	(10.0)	(5.4)	(9.7)	*	*	(0.1)	(32.3)	(4.4)	(1.8)
Welland	No.	58,269	5,010	5,237	6,663	3,308	6,892	3,644	1,945	8	2	183	19,981	4,119	1,277
	%	(100.0)	(8.6)	(9.0)	(11.4)	(5.7)	(11.8)	(6.3)	(3.3)	*	*	(0.3)	(34.3)	(7.1)	(2.2)
Sub-total	No.	114,807	9,599	10,375	12,680	6,992	12,450	6,831	8,886	17	59	343	37,585	6,719	2,271
	%	(100.0)	(8.4)	(9.0)	(11.0)	(6.1)	(10.8)	(5.9)	(7.7)	*	(0.1)	(0.3)	(32.7)	(5.9)	(2.0)
Total, Niagara Region	No.	284,747	22,506	25,951	36,644	19,275	31,778	16,224	15,351	49	65	475	94,859	15,900	5,670
	%	(100.0)	(7.9)	(9.1)	(12.9)	(6.8)	(11.2)	(5.7)	(5.4)	*	*	(0.2)	(33.3)	(5.6)	(2.0)
Total, Ontario	No.	2,393,015	209,532	237,637	357,343	159,215	294,474	136,657	172,171	11,607	1,856	25,649	619,137	113,306	54,431
	%	(100.0)	(8.8)	(9.9)	(14.9)	(6.7)	(12.3)	(5.7)	(7.2)	(0.5)	(0.1)	(25.9)	(4.7)	(2.3)	
Niagara as % of Ontario ..	%	11.9	10.7	10.9	10.3	12.1	10.8	11.9	8.9	0.4	3.5	1.9	15.3	14.0	10.4

* Less than 0.05 per cent.
¹ Excludes a few persons seeking work who have never been employed.

²n.e.s. — not elsewhere specified.
Note: Due to rounding, percentages may not add to 100.

EMPLOYMENT AND EARNINGS

INDEX NUMBERS OF EMPLOYMENT IN MANUFACTURING,
NIAGARA REGION, SELECTED YEARS 1949 TO 1962
(1949 = 100)

Average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
A — Burlington												
1949						102.0						
1952						106.7						
1955	97.3	91.3	91.8	93.4	93.7	95.8	97.9	97.5	100.4	101.6	101.3	101.8
1956	102.8	100.8	101.0	102.1	103.5	104.3	105.4	103.7	102.3	101.9	102.6	103.6
1957	100.7	101.4	102.0	102.2	102.8	100.1	103.8	102.8	100.8	100.7	99.2	97.4
1958	91.5	95.0	93.9	94.2	95.0	94.0	94.8	93.7	84.3	84.2	82.6	93.8
1959	98.6	93.8	94.5	95.9	97.9	98.5	101.1	100.9	100.8	102.0	101.1	99.7
1960	94.1	97.1	97.0	96.8	96.6	97.3	96.0	93.9	93.3	93.2	91.5	90.2
1961	91.3	87.1	87.7	88.7	89.6	91.2	92.3	93.6	93.3	93.9	93.1	93.3
1962	96.4	91.8	91.9	92.5	94.0	96.2	99.2	98.8	97.8	99.5	97.7	99.2
B — Niagara												
1949						99.6						
1952						115.1						
1955	105.8	104.0	104.2	103.9	105.4	107.0	109.8	108.4	118.1	107.9	104.2	99.6
1956	115.0	97.3	107.0	113.4	114.4	116.0	117.9	117.1	119.6	121.9	122.2	119.4
1957	114.1	113.3	113.1	113.1	114.3	114.6	115.2	114.9	122.5	120.9	112.9	109.8
1958	100.6	101.2	99.7	99.2	99.6	101.3	102.4	95.9	104.3	108.9	99.2	99.8
1959	102.6	98.5	99.7	100.6	100.9	102.1	104.3	97.0	108.4	110.3	108.0	99.6
1960	100.3	102.4	102.4	100.8	100.0	100.5	100.4	94.0	102.3	106.4	100.5	101.5
1961	98.8	94.1	94.3	94.8	94.0	95.8	97.2	99.5	100.5	108.7	103.3	104.5
1962	102.9	98.9	99.1	100.1	100.4	101.3	104.1	96.8	109.0	111.6	107.0	106.8
Total, Niagara Region												
1949						101.2						
1952						109.6						
1955	100.3	95.7	96.1	97.0	97.7	101.3	102.0	101.3	106.2	103.7	102.3	101.1
1956	107.0	99.6	103.1	106.0	107.3	108.3	109.7	108.3	108.3	108.8	109.3	109.0
1957	104.7	105.5	105.8	105.9	106.8	105.1	107.7	107.0	101.1	107.7	104.0	101.7
1958	94.6	97.1	95.9	95.9	96.6	96.5	97.4	94.5	91.2	92.7	88.3	95.9
1959	100.0	95.4	96.3	97.5	99.0	99.8	102.2	99.5	103.5	104.9	103.5	99.7
1960	96.2	98.9	98.9	98.2	97.8	98.4	97.5	93.9	96.4	97.8	94.6	94.1
1961	93.8	89.5	90.0	90.8	91.1	92.8	94.0	95.6	95.8	99.0	96.6	97.1
1962	98.6	94.2	94.4	95.1	96.2	98.1	100.9	98.1	101.6	103.7	100.9	101.8

INDEX NUMBERS OF EMPLOYMENT, ALL INDUSTRIES,
SELECTED CENTRES, NIAGARA REGION, 1951 TO 1962
(1949 = 100)

	Brantford Urban Area	Hamilton Metropolitan Area	Niagara Falls Urban Area	St. Catharines ¹ Urban Area
1951	99.9	109.5	—	121.1
1952	99.9	109.2	153.1	124.0
1953	86.8	111.1	166.9	121.1
1954	82.4	103.6	142.2	110.8
1955	85.0	106.4	123.8	111.9
1956	88.6	113.8	127.2	124.9
1957	86.8	114.4	125.6	124.3
1958	87.1	105.0	108.3	109.6
1959	90.7	112.0	101.2	111.3
1960	81.2	111.3	99.9	108.9
1961	81.6	108.1	97.9	108.3
1962	83.5	113.2	100.0	111.1

¹Includes Port Colborne and Welland in addition to urban area as defined in 1956 Census.

**INDEX NUMBERS OF EMPLOYMENT BY INDUSTRY,
SELECTED CENTRES, NIAGARA REGION, 1951 TO 1962
(1949 = 100)**

	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962
Brantford Urban Area												
Industrial Composite	99.9	99.9	86.8	82.4	85.0	88.6	86.8	87.1	90.7	81.2	81.6	83.5
Manufacturing	100.1	99.8	84.0	78.8	81.3	84.5	81.4	81.9	86.0	74.6	74.3	75.2
Textile Products (except clothing)	101.1	101.8	78.9	80.2	94.5	94.0	94.4	83.1	72.1	79.4	79.3	87.7
Iron and Steel Products	100.0	108.2	80.2	67.7	64.6	67.5	57.0	63.1	72.0	54.4	52.0	48.8
Hamilton Metropolitan Area												
Industrial Composite	109.5	109.2	111.1	103.6	106.4	113.8	114.4	105.0	112.0	111.3	108.1	113.2
Manufacturing	108.6	107.2	109.8	99.3	101.0	107.3	105.6	93.5	100.7	97.8	94.7	101.0
Textile Products (except clothing)	120.0	109.1	109.3	102.4	107.7	112.1	102.8	85.0	71.5	57.4	56.4	60.4
Clothing (Textile and fur)	86.0	80.3	82.9	70.4	65.5	57.2	48.9	39.3	29.0	25.9	26.0	28.3
Iron and Steel Products	111.1	111.9	107.2	99.2	104.3	114.6	115.5	98.8	121.1	122.0	117.8	125.9
Electrical Apparatus and Supplies	123.1	126.7	141.7	122.3	124.2	127.0	119.9	106.6	97.1	87.2	83.1	88.3
Non-Metallic Mineral Products	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	98.1	93.0	102.9	100.9	105.0
Construction	116.2	123.4	111.8	115.0	113.4	123.5	137.7	122.4	136.0	154.7	134.3	139.5
Transportation, Storage, Communication	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	130.9	129.4	130.4	133.9	135.2	135.1
Retail Trade	115.5	112.7	114.1	116.2	128.6	142.5	148.0	146.7	148.7	149.5	147.2	149.0
St. Catharines Urban Area²												
Industrial Composite	121.1	124.0	121.1	110.8	111.9	124.9	124.3	109.6	111.3	108.9	108.3	111.1
Manufacturing	114.4	119.8	117.5	106.8	105.8	118.5	117.2	101.9	105.6	103.8	101.2	104.0
Pulp and Paper Mills	104.0	113.8	118.8	121.6	123.3	126.9	127.2	125.3	128.3	128.7	125.6	129.0
Iron and Steel Products	107.1	111.6	98.2	80.1	91.0	111.1	112.5	92.4	101.4	100.1	97.9	103.6
Transportation Equipment	128.6	131.2	145.1	128.0	118.8	134.8	128.9	114.8	113.2	110.1	113.0	115.1
Construction	253.1	201.0	185.2	158.7	181.8	209.9	215.7	173.9	122.7	99.1	112.5	113.5

n.a. not available.

¹Includes abrasive products; asbestos products; cement, hydraulic; clay products; glass and gypsum products; lime and gypsum products; stone products; concrete products; miscellaneous non-metallic mineral products.

²Includes Port Colborne and Welland in addition to urban area as defined in 1956 Census.

EMPLOYMENT AND EARNINGS

**INDEX NUMBERS OF PAYROLLS IN MANUFACTURING,
NIAGARA REGION, SELECTED YEARS 1949 TO 1962
(1949 = 100)**

Average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
A — Burlington												
1949							100.3					
1952							138.9					
1955	139.2	126.8	129.5	132.3	133.8	136.6	138.9	138.3	143.8	147.6	149.0	149.7
1956	157.0	148.4	150.0	154.3	156.0	159.1	158.0	158.7	156.3	160.1	162.5	165.1
1957	164.0	163.1	165.1	165.1	169.2	165.7	168.2	168.5	162.9	164.4	165.0	160.5
1958	153.3	155.8	155.9	158.1	159.9	161.2	160.8	159.9	137.9	139.5	138.5	156.7
1959	176.5	164.6	167.3	169.9	174.5	175.6	180.9	181.5	179.9	184.1	186.1	180.5
1960	173.7	179.3	177.7	178.6	180.1	178.6	175.7	172.8	172.4	172.6	170.5	168.0
1961	175.3	164.4	166.9	168.9	173.0	174.8	179.6	180.7	179.4	180.7	183.7	179.6
1962	190.5	179.5	182.4	182.6	184.8	192.2	195.8	195.7	192.7	198.2	196.6	198.4
B — Niagara												
1949							99.4					
1952							151.6					
1955	153.1	151.3	150.4	150.1	152.1	156.7	157.8	158.3	167.0	154.3	150.2	147.3
1956	175.3	145.9	158.7	175.0	178.4	180.1	178.3	177.0	178.0	184.2	189.6	186.2
1957	181.7	183.1	180.3	181.4	182.7	184.5	183.4	184.4	186.4	189.2	180.3	177.8
1958	164.1	165.7	162.2	163.4	166.4	171.5	170.9	156.4	166.1	171.2	160.4	164.4
1959	178.1	171.1	174.0	174.6	176.3	179.1	181.9	169.4	184.5	192.1	188.1	172.6
1960	179.1	183.8	182.5	180.7	180.3	177.9	180.5	169.1	178.6	187.4	179.1	180.7
1961	182.7	173.9	175.3	175.4	176.7	179.4	182.5	183.3	186.7	194.2	191.7	189.6
1962	197.9	187.9	189.2	194.9	197.8	200.9	199.0	187.0	206.1	211.7	206.6	210.1
Total, Niagara Region												
1949							100.0					
1952							143.3					
1955	144.3	135.4	136.9	138.5	140.2	146.6	145.6	145.3	151.7	149.9	149.4	148.9
1956	163.4	147.5	153.1	161.6	163.8	166.4	165.1	165.1	164.0	168.6	172.0	172.5
1957	169.4	170.1	170.4	170.8	174.0	172.3	173.5	174.1	163.5	171.1	170.4	166.6
1958	157.1	159.2	158.1	159.9	162.2	164.8	164.4	158.7	147.8	150.6	146.2	159.4
1959	177.0	166.9	169.7	171.6	175.1	176.9	181.2	177.2	181.5	186.9	186.8	177.8
1960	175.6	180.9	179.4	179.3	180.2	178.4	177.4	171.5	174.5	177.7	173.5	172.4
1961	177.9	167.7	169.8	171.1	174.3	176.4	180.6	181.6	182.0	185.4	186.5	183.1
1962	193.0	182.4	184.0	186.9	189.3	195.5	196.9	192.7	197.4	202.9	200.1	202.4

**INDEX NUMBERS OF PAYROLLS, ALL INDUSTRIES,
SELECTED CENTRES, NIAGARA REGION, 1951 TO 1962
(1949 = 100)**

	Brantford Urban Area	Hamilton Metropolitan Area	Niagara Falls Urban Area	St. Catharines ¹ Urban Area
1951	116.3	126.9	—	147.3
1952	129.2	138.0	213.5	161.7
1953	112.4	146.7	248.7	162.5
1954	110.5	141.2	211.0	152.4
1955	116.4	151.0	183.8	161.5
1956	125.0	171.6	198.8	190.4
1957	126.1	183.4	208.1	196.6
1958	132.6	172.6	180.5	177.3
1959	144.9	197.1	172.3	189.8
1960	132.6	201.5	175.0	190.8
1961	137.6	202.5	177.6	196.4
1962	143.9	219.1	185.2	211.0

¹Includes Port Colborne and Welland in addition to urban area as defined in 1956 Census.

**AVERAGE WEEKLY WAGES AND SALARIES IN MANUFACTURING,
NIAGARA REGION, SELECTED YEARS 1949 TO 1962**

	Average \$	Jan. \$	Feb. \$	Mar. \$	Apr. \$	May \$	June \$	July \$	Aug. \$	Sept. \$	Oct. \$	Nov. \$	Dec. \$
A — Burlington													
1949							46.82						
1952							61.97						
1955	68.01	66.00	67.04	67.33	67.91	67.74	67.43	67.39	68.10	69.03	69.87	69.85	68.40
1956	72.61	69.98	70.57	71.82	71.58	72.50	71.20	72.75	72.62	74.68	75.38	75.82	72.39
1957	77.49	76.51	76.98	76.86	78.30	78.74	77.07	78.00	76.86	77.65	79.06	78.40	75.39
1958	79.63	78.03	79.02	79.82	80.01	81.52	80.66	81.15	77.77	78.75	79.78	79.48	79.62
1959	85.04	83.42	84.16	84.25	84.74	84.75	85.00	85.53	84.80	85.80	87.50	86.08	84.39
1960	87.65	87.82	87.02	87.68	88.60	87.19	86.89	87.41	87.68	87.86	88.45	88.46	86.69
1961	91.19	89.60	90.32	90.45	91.65	91.04	92.39	91.70	91.31	91.40	93.70	91.41	89.32
1962	93.77	92.85	93.57	93.75	93.31	94.90	93.67	94.06	93.56	94.54	95.52	94.93	90.56
B — Niagara													
1949							48.90						
1952							64.52						
1955	70.95	71.32	70.74	70.78	70.72	71.79	70.45	71.53	69.29	70.08	70.63	72.44	71.60
1956	74.68	73.48	72.68	75.59	76.36	76.08	74.08	74.06	72.93	74.05	76.04	76.38	74.40
1957	78.03	79.22	78.07	78.53	78.33	78.83	77.99	78.59	74.54	76.64	78.24	79.33	78.01
1958	79.89	80.15	79.70	80.64	81.81	82.81	81.70	79.81	77.95	76.96	79.14	80.63	77.42
1959	84.96	85.04	85.46	84.91	85.49	85.78	85.32	85.43	83.24	85.16	85.21	84.82	83.66
1960	87.29	87.77	87.19	87.65	88.11	86.57	87.80	87.87	85.28	86.00	87.01	86.94	89.28
1961	90.34	90.26	90.73	90.33	91.77	91.46	91.71	89.96	90.67	87.19	90.58	88.55	90.82
1962	93.83	92.68	93.24	95.00	96.16	96.81	93.31	94.33	92.27	92.57	94.19	95.98	89.38
Total, Niagara Region													
1949							47.48						
1952							62.84						
1955	69.23	68.01	68.44	68.60	68.95	67.45	68.55	68.92	72.13	69.41	70.14	70.73	69.48
1956	73.36	71.16	71.32	73.21	73.34	73.82	72.27	73.24	72.74	74.44	75.63	76.03	73.13
1957	77.69	77.51	77.38	77.48	78.31	78.77	77.41	78.22	76.87	76.38	78.88	78.75	76.35
1958	79.72	78.79	79.26	80.12	80.65	81.99	81.03	80.68	77.84	78.02	79.53	79.89	78.85
1959	85.01	84.00	84.63	84.48	85.00	85.11	85.11	85.50	84.24	85.57	86.68	85.65	84.13
1960	87.51	87.80	87.08	87.67	88.43	86.97	87.21	87.57	86.81	87.17	87.93	87.90	87.62
1961	90.88	89.84	90.46	90.40	91.70	91.19	92.15	91.08	91.08	89.82	92.56	90.36	89.86
1962	93.77	92.79	93.45	94.20	94.33	95.50	93.39	94.15	93.09	93.82	95.03	95.30	90.15

**AVERAGE WEEKLY WAGES AND SALARIES, ALL INDUSTRIES,
SELECTED CENTRES, NIAGARA REGION, 1951 TO 1962**

	Brantford Urban Area \$	Hamilton Metropolitan Area \$	Niagara Falls Urban Area \$	St. Catharines ¹ Urban Area \$
1951	51.01	54.11	55.35	60.07
1952	56.58	58.94	63.36	64.38
1953	56.70	61.52	68.01	66.20
1954	58.80	63.20	67.64	67.63
1955	60.00	65.77	67.75	70.92
1956	61.76	69.97	71.12	74.76
1957	63.63	74.44	75.25	77.76
1958	66.68	76.41	75.57	79.12
1959	69.93	81.75	76.72	83.31
1960	71.39	84.00	78.70	85.57
1961	73.80	86.84	81.33	88.46
1962	75.46	89.68	81.93	92.60

¹Includes Port Colborne and Welland in addition to urban area as defined in 1956 Census.

**AVERAGE WEEKLY WAGES AND SALARIES BY INDUSTRY,
SELECTED CENTRES, NIAGARA REGION, 1951 TO 1962**

	1951 \$	1952 \$	1953 \$	1954 \$	1955 \$	1956 \$	1957 \$	1958 \$	1959 \$	1960 \$	1961 \$	1962 \$
Brantford Urban Area												
Industrial Composite	51.01	56.58	56.70	58.80	60.00	61.76	63.63	66.68	69.93	71.39	73.80	75.46
Manufacturing	52.67	58.70	61.03	62.22	64.04	65.99	69.31	72.69	74.25	77.20	78.51	78.51
Textile Products (except clothing)	52.40	55.37	57.69	57.09	59.30	61.06	63.98	68.48	69.31	71.30	73.03	73.03
Iron and Steel Products	58.25	63.97	63.74	67.25	69.02	71.11	74.82	78.36	81.70	85.51	89.27	89.51
Hamilton Metropolitan Area												
Industrial Composite	54.11	58.94	61.52	63.20	65.77	69.97	74.44	76.41	81.75	84.00	86.84	89.68
Manufacturing	56.78	62.04	64.80	66.76	69.70	74.89	80.30	82.54	88.48	91.00	94.76	97.25
Textile Products (except clothing)	41.93	43.71	45.92	46.80	48.28	49.71	52.48	53.92	57.09	58.77	59.99	60.88
Clothing (textile and fur)	38.65	40.68	42.49	42.71	42.97	44.42	44.42	44.75	47.12	49.09	51.27	51.27
Iron and Steel Products	61.91	68.25	72.19	73.53	78.23	84.23	91.19	93.48	98.95	100.07	105.16	107.36
Electrical Apparatus and Supplies	59.19	66.58	71.71	71.99	79.15	84.46	87.26	90.80	97.33	100.11	104.32	104.32
Non-Metallic Mineral Products ¹	n.a.	n.a.	n.a.	n.a.	n.a.	71.50	73.41	76.23	79.56	82.45	86.42	86.42
Construction	54.56	61.25	62.58	64.60	67.82	72.12	76.33	81.01	87.97	92.35	94.77	97.53
Transportation, Storage, Communication	n.a.	n.a.	n.a.	n.a.	n.a.	69.22	73.52	77.92	80.17	83.55	87.46	87.46
Retail Trade	40.56	42.30	44.58	47.14	48.12	49.39	51.44	53.64	55.39	56.28	57.56	60.25
St. Catharines Urban Area²												
Industrial Composite	60.07	64.38	66.20	67.63	70.92	74.76	77.76	79.12	83.31	85.57	88.46	92.60
Manufacturing	62.20	66.51	68.44	70.44	73.92	77.78	81.00	82.78	88.04	90.47	94.03	98.66
Pulp and Paper Mills	71.19	71.60	74.64	76.28	80.30	84.62	89.58	91.78	95.77	98.26	102.14	106.04
Iron and Steel Products	65.90	70.58	71.98	72.94	78.13	83.02	86.04	87.64	94.09	95.76	99.07	104.01
Transportation Equipment	63.91	67.55	68.33	72.06	75.32	78.46	80.59	85.41	93.26	95.64	99.79	108.78
Construction	60.30	66.00	65.60	63.50	73.23	78.58	82.18	83.52	79.49	80.67	84.64	89.95

n.a. not available.

¹Includes abrasive products; asbestos products; clay products; cement, hydraulic; glass products; lime and gypsum products; stone products; concrete products; miscellaneous non-metallic mineral products.²Includes Port Colborne and Welland in addition to urban area as defined in 1956 Census.

TAXPAYERS, INCOME AND AVERAGE INCOME,
COUNTIES AND SELECTED CENTRES, NIAGARA REGION, 1951, 1959 AND 1960

	Number of Taxpayers						Total Income of Taxpayers						Average Income per Taxpayer						% Change 1960/1951	
	1951		1959		1960		1951		1959		1960		(\$000's)		1951		1959		1960	
																				\$
A — Burlington																				
Brant	20,090	24,188	23,272	61,121	96,936	94,853	55.2	3,042	4,008	4,076	34.0									
Brantford	16,350	19,917	18,242	50,201	81,048	75,334	50.1	3,070	4,059	4,130	34.5									
Wentworth	96,370	126,076	126,656	308,221	554,455	573,921	86.2	3,198	4,395	4,531	41.7									
Hamilton	85,890	110,029	111,526	272,229	484,667	502,826	84.7	3,170	4,405	4,503	42.2									
Sub-total	116,460	150,264	149,928	369,342	651,091	668,774	81.1	3,171	4,333	4,461	40.7									
B — Niagara																				
Haldimand	3,760	5,875	5,773	11,147	21,411	22,929	105.7	2,965	3,644	3,972	34.0									
Lincoln	25,640	34,940	35,618	81,974	149,847	158,077	92.8	3,197	4,289	4,438	38.8									
St. Catharines	17,420	23,591	25,233	56,326	102,640	113,950	101.8	3,233	4,351	4,504	39.3									
Welland	40,530	45,185	45,211	130,194	188,611	195,239	50.0	3,212	4,174	4,318	34.4									
Niagara Falls	14,400	14,526	15,957	46,220	60,390	68,811	48.9	3,210	4,157	4,312	34.3									
Port Colborne	n.a.	5,000	4,498	n.a.	20,910	18,922	—	n.a.	4,182	4,207	—									
Welland	9,520	11,382	11,741	31,509	47,796	50,306	59.7	3,310	4,199	4,285	29.5									
Sub-total	69,930	86,000	86,602	223,315	359,869	376,245	68.5	3,193	4,185	4,345	36.1									
Total, Niagara Region	186,390	236,264	236,530	592,657	1,010,960	1,045,019	76.3	3,180	4,279	4,418	38.9									
Total, Ontario	1,249,960	1,804,731	1,850,428	3,954,180	7,606,213	8,071,463	104.1	3,163	4,215	4,362	37.9									
Niagara as % of Ontario	14.9	13.1	12.8	15.0	13.3	12.9						100.5	101.5	101.3						
n.a. not available.																				

COMMUNITY PLANNING

**WAGE AND SALARY EARNERS,
GROUPED BY EARNINGS DURING 12 MONTHS PRIOR TO JUNE 1, 1961,
COUNTIES, NIAGARA REGION**

		Total Wage and Salary Earners	Under \$1,000	\$1,000- \$1,999	\$2,000- \$2,999	\$3,000- \$3,999	\$4,000- \$5,999	\$6,000- \$9,999	\$10,000+	Not Stated
A — Burlington										
Brant	No.	26,863	4,085	3,651	5,208	5,891	5,692	1,414	295	627
	%	(100.0)	(15.2)	(13.6)	(19.4)	(21.9)	(21.2)	(5.3)	(1.1)	(2.3)
Wentworth	No.	124,752	14,952	13,651	18,894	22,253	37,937	11,897	1,828	3,340
	%	(100.0)	(12.0)	(10.9)	(15.1)	(17.8)	(30.4)	(9.5)	(1.5)	(2.7)
Sub-total	No.	151,615	19,037	17,302	24,102	28,144	43,629	13,311	2,123	3,967
	%	(100.0)	(12.6)	(11.4)	(15.9)	(18.6)	(28.8)	(8.8)	(1.4)	(2.6)
B — Niagara										
Haldimand	No.	7,046	1,258	1,016	1,364	1,471	1,478	288	35	136
	%	(100.0)	(17.9)	(14.4)	(19.4)	(20.9)	(21.0)	(4.1)	(0.5)	(1.9)
Lincoln	No.	39,254	5,639	4,349	5,255	7,365	11,982	3,231	488	945
	%	(100.0)	(14.4)	(11.1)	(13.4)	(18.8)	(30.5)	(8.2)	(1.2)	(2.4)
Welland	No.	51,942	7,184	5,738	6,883	8,568	17,213	4,528	496	1,332
	%	(100.0)	(13.8)	(11.0)	(13.3)	(16.5)	(33.1)	(8.7)	(1.0)	(2.6)
Sub-total	No.	98,242	14,081	11,103	13,502	17,404	30,673	8,047	1,019	2,413
	%	(100.0)	(14.3)	(11.3)	(13.7)	(17.7)	(31.2)	(8.2)	(1.0)	(2.5)
Total, Niagara Region	No.	249,857	33,118	28,405	37,604	45,548	74,302	21,358	3,142	6,380
	%	(100.0)	(13.3)	(11.4)	(15.1)	(18.2)	(29.7)	(8.5)	(1.3)	(2.6)

Note: Due to rounding, percentages may not add to 100.

**ESTIMATED ACREAGE APPROVED IN PLANS OF SUBDIVISION,
COUNTIES, NIAGARA REGION, 1946 TO 1962**

	1946	1947-50	1951-54	1955-58	1959-62
Brant	249	458	537	418	182
Haldimand	13	38	55	51	19
Lincoln	72	579	1,506	841	305
Welland	199	733	1,382	1,070	137
Wentworth	51	1,120	2,085	922	569
Burlington Town	150	242	566	605	302
Total	734	3,170	6,131	3,907	1,514

Source: Community Planning Branch, Department of Municipal Affairs.

LAND USE AREAS FOR SELECTED URBAN CENTRES, NIAGARA REGION, 1961

Municipality	Population	Residence			Commerce			Industry			Institutions			Parks and Public Open Space			Streets and Railroads			Total Developed Area			Agriculture and Vacant		Total Incorporated Area		
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	Total	D						
Beamsville	2,537	183	61.6	7.2	20	6.7	0.8	12	4.0	0.5	18	6.1	0.7	23	7.7	0.9	41	13.8	1.6	297	229	43.5	526				
Niagara	2,712	276	38.4	10.2	22	3.1	0.8	6	0.8	0.2	78	10.9	2.9	160	22.3	5.9	176	24.5	6.5	718	410	36.3	1,128				
Dunville	5,181	273	44.0	5.3	24	3.9	0.5	85	13.7	1.6	21	3.4	0.4	42	6.8	0.8	175	28.2	3.4	620	658	51.5	1,278				
Paris	5,820	741	67.5	12.7	18	1.6	0.3	58	5.3	1.0	23	2.1	0.4	64	5.8	1.1	194	17.7	3.3	1,098	881	44.5	1,979				
Pt. Colborne	14,886	754	41.2	5.1	73	4.0	0.5	536	29.3	3.6	42	2.3	0.3	23	1.2	0.2	401	21.9	2.7	1,829	209	10.3	2,038				
Brantford	55,201	2,200	38.9	4.0	241	4.3	0.4	363	6.4	0.7	449	7.9	0.8	714	12.6	1.3	1,687	29.8	3.1	5,654	5,681	50.1	11,335				
St. Catharines	84,472	2,892	39.3	3.4	414	5.6	0.5	886	12.0	1.1	572	7.8	0.7	490	6.7	0.6	2,101	28.6	2.5	7,355	9,089	55.3	16,444				
Hamilton	273,991	6,180	34.8	2.3	765	4.3	0.3	2,643	14.9	1.0	1,806	10.2	0.7	2,185	12.3	0.7	4,202	23.6	1.5	17,781	13,278	42.8	31,059				
Average	45.7	6.3	4.2	0.5	10.8	1.2	6.3	0.9	9.4	1.4	23.5	3.1	41.7													

A — Total Area in Acres (Approximate).

B — % of Developed Urban Area.

C — Acres per 100 Persons.

D — % of Total Incorporated Area.

Source: Community Planning Branch, Department of Municipal Affairs.

COMMUNITY PLANNING

ESTIMATED ACREAGE APPROVED IN PLANS OF SUBDIVISION,
SELECTED MUNICIPALITIES, NIAGARA REGION, 1946 TO 1962

	1946	1947-50	1951-54	1955-58	1959-62
Brant County					
Brantford City	81	205	307	240	130
Paris Town	—	32	—	27	—
Brantford Twp.	153	120	185	124	14
Burford Twp.	—	—	8	9	38
Dumfries South Twp.	15	88	37	18	—
Haldimand County					
Dunnville Town	13	—	31	26	—
Hagersville Village	—	—	24	10	1
Dunn Twp.	—	8	—	6	—
Rainham Twp.	—	11	—	—	—
Seneca Twp.	—	14	—	—	—
Lincoln County					
St. Catharines City	57	362	1,263	350	140
Grimsby Town	8	11	56	100	48
Beamsville Village	—	—	7	15	12
Clinton Twp.	—	—	25	33	10
Grimsby North Twp.	7	2	42	185	94
Grimsby South Twp.	—	—	—	20	—
Louth Twp.	—	169	18	79	1
Niagara Twp.	—	31	95	59	—
Welland County					
Niagara Falls City	21	31	—	—	—
Welland City	20	63	209	95	26
Fort Erie Town	—	4	95	—	27
Port Colborne Town	—	55	43	37	3
Thorold Town	—	60	30	28	—
Chippawa Village	—	6	7	284	—
Fonthill Village	—	9	58	37	9
Bertie Twp.	—	78	20	12	6
Humberstone Twp.	34	32	234	78	—
Stamford Twp.	76	315	585	461	41
Thorold Twp.	48	33	18	23	12
Wentworth County					
Hamilton City	18	527	1,185	228	395
Dundas Town	11	7	114	12	108
Stoney Creek Town	—	17	96	54	22
Ancaster Twp.	—	375	245	380	—
Flamborough East Twp.	—	31	51	25	—
Flamborough West Twp.	23	153	131	87	29
Glanford Twp.	—	—	50	11	3
Saltfleet Twp.	—	10	213	112	12
Halton County					
Burlington Town	150	242	566	605	302

Source: Community Planning Branch, Department of Municipal Affairs.

**SELECTED PLANNING AND DEVELOPMENT MEASURES
IN PLANNING AREAS OR MUNICIPALITIES, NIAGARA REGION, 1962**

<u>Planning Area or Municipality</u>	<u>Type of Planning Area</u>	<u>Year Formed</u>	<u>Official Plan</u>	<u>Zoning By-law</u>	<u>Committee of Adjustment</u>	<u>Subdivision Control</u>	<u>Building By-law</u>
Brant County							
Brantford and Suburban	J	1947					
Brantford City	J	1947	X	X	X	X	X
Brantford Township	J	1947		X		X	X
Onondaga Township	J	1947		X		X	X
Burford Township	SI	1956		X		X	X
Dumfries South Township	SI	1955		X		X	X
Oakland Township				X			X
Paris Town..	SI	1953	X	X		X	X
Haldimand County							
Dunnville and District	J	1958					
Dunnville Town	S	1952	X	X	X	X	X
Canborough Township	S	1959		X		X	X
Dunn Township	S	1957					X
Moulton Township	J	1958		X			X
Sherbrooke Township	J	1958					X
Cayuga and North Cayuga	J	1959					X
Cayuga Village	J	1959					
Cayuga North Township	J	1959				X	X
Cayuga South Township							
Hagersville and Suburban	J	1957					
Hagersville Village	J	1957	X	X		X	X
Oneida Township (pt.)	J	1957	X	X		X	X
Walpole Township (pt.)	J	1957	X			X	
Rainham Township							
Seneca Township	SI	1957		X		X	X
Caledonia Town	SI	1957		X		X	X
Jarvis Village							X
Lincoln County							
Caistor Township							X
Clinton Township	SI	1956		X		X	X
Gainsborough Township				X			X
Grimsby and Suburban	J	1952					
Grimsby Town	J	1952	X			X	X
Grimsby North Township	J	1952	X	X		X	X
Grimsby South Township	SI	1956				X	X
Louth Township	SI	1953		X		X	X
Niagara Township	SI	1950		X		X	X
St. Catharines City	SI	1946	X	X		X	X
Niagara Town	SI	1951		X		X	X
Beamsville Village	SI	1953				X	X

COMMUNITY PLANNING

SELECTED PLANNING AND DEVELOPMENT MEASURES
IN PLANNING AREAS OR MUNICIPALITIES, NIAGARA REGION, 1962 (Cont'd)

Planning Area or Municipality	Type of Planning Area	Year Formed	Official Plan	Zoning By-law	Committee of Adjustment	Subdivision Control	Building By-law
Welland County							
Welland Area	J	1947					
Welland City	J	1947	X	X	X	X	X
Fonthill Village	J	1947		X		X	X
Crowland Township	J	1947	X	X		X	X
Humberstone Township (pt.) ..	J	1947	X	X		X	X
Pelham Township	J	1947		X		X	X
Thorold Township	J	1947		X	X	X	X
Wainfleet Township	J	1947		X			X
Niagara Falls and Suburban	J	1948					
Niagara Falls City	J	1948	X	X	X		X
Chippawa Village	J	1948	X	X	X	X	X
Stamford Township	J	1948	X	X	X	X	X
Willoughby Township	J	1948		X		X	X
Fort Erie Town	SI	1949	X	X			X
Port Colborne and Suburban	J	1953					
Port Colborne Town	J	1953	X	X		X	X
Humberstone Township (pt.) ..	J	1947	X	X		X	X
Wainfleet Township (pt.)	J	1947		X		X	X
Thorold Town	SI	1955		X		X	X
Crystal Beach Village				X		X	X
Bertie Township				X			X
Wentworth County and Town of Burlington							
Hamilton-Wentworth Planning Area							
Hamilton City	S	1947	X	X	X	X	X
Dundas Town	J	1949	X	X		X	X
Stoney Creek Town	J	1949	X	X		X	X
Ancaster Township	J	1949	X	X		X	X
Beverly Township	J	1949		X		X	X
Binbrook Township	J	1949		X		X	X
Flamborough West Township ..	J	1949		X		X	X
Glanford Township	J	1949		X		X	X
Saltfleet Township	J	1949	X	X		X	X
Burlington and Suburban	J	1948					
Burlington Town	J	1948	X	X	X	X	X
Waterdown Village	J	1948	X	X	X	X	X
Flamborough East Township ..	J	1948	X	X	X	X	X

SI — Single Independent Planning Area

J — Joint Planning Area

S — Subsidiary Planning Area

Source: Community Planning Branch, Department of Municipal Affairs.

NUMBER, AREA AND AVERAGE AREA OF FARMS¹,
COUNTIES, NIAGARA REGION, JUNE 1, 1951, 1956 AND 1961

		Number of Farms ¹		Area of Farms		Average Area per Farm (Acres)	Area of Farms ² as % of Total Land Area
		No.	% of Ontario	Area (Acres)	% of Ontario		
A — Burlington							
Brant	1951	2,236	1.5	223,402	1.1	99.9	82.9
	1956	2,079	1.5	218,707	1.1	105.2	81.2
	1961	1,771	1.5	204,451	1.1	115.4	75.9
Wentworth	1951	2,895	1.9	232,659	1.1	80.4	79.4
	1956	2,701	1.9	215,484	1.1	79.8	73.5
	1961	2,367	2.0	198,139	1.1	83.7	67.6
Sub-total	1951	5,131	3.4	456,061	2.2	88.9	81.1
	1956	4,780	3.4	434,191	2.2	90.8	77.2
	1961	4,138	3.4	402,590	2.2	97.3	71.6
B — Niagara							
Haldimand	1951	2,370	1.6	278,378	1.3	117.5	89.1
	1956	2,305	1.6	277,181	1.4	120.3	88.7
	1961	2,070	1.7	269,237	1.4	130.1	86.2
Lincoln	1951	3,503	2.3	178,614	0.9	51.0	84.1
	1956	3,467	2.5	170,681	0.9	49.2	80.3
	1961	3,238	2.7	165,853	0.9	51.2	78.1
Welland	1951	2,035	1.4	155,444	0.7	76.4	62.8
	1956	1,919	1.4	144,818	0.7	75.5	58.5
	1961	1,494	1.2	125,707	0.7	84.1	50.8
Sub-total	1951	7,908	5.3	612,436	2.9	77.4	79.3
	1956	7,691	5.5	592,680	3.0	77.1	76.7
	1961	6,802	5.6	560,797	3.0	82.4	72.6
Total, Niagara Region	1951	13,039	8.7	1,068,497	5.1	81.9	80.0
	1956	12,471	8.9	1,026,871	5.2	82.3	76.9
	1961	10,940	9.0	963,387	5.2	88.1	72.2

¹1951 and 1956 Census definition of a farm includes holdings of three acres or more in size, or from one to three acres in size with agricultural production during previous 12 months of \$250 or more. 1961 Census definition includes holdings of one acre or more with sales of agricultural products during the previous 12 months valued at \$50 or more.

²Land area total revised in 1956 Census for Province only; county totals for land areas have not been revised since 1951 Census.

AGRICULTURE

FARM HOLDINGS CLASSIFIED BY SIZE OF FARM,
COUNTIES, NIAGARA REGION, JUNE 1, 1951, 1956 AND 1961

		Total Number of Farms	1-9 Acres	10-69 Acres	70-129 Acres	130-399 Acres	400-759 Acres	760 Acres and over
A — Burlington								
Brant	1951	No.	2,236	147	651	865	558	14
		%	(100.0)	(6.6)	(29.1)	(38.7)	(25.0)	(0.6)
	1956	No.	2,079	124	604	752	578	19
		%	(100.0)	(6.0)	(29.1)	(36.2)	(27.8)	(0.9)
	1961	No.	1,771	125	431	656	539	17
		%	(100.0)	(7.1)	(24.3)	(37.0)	(30.4)	(1.0)
Wentworth	1951	No.	2,895	376	1,017	954	541	7
		%	(100.0)	(13.0)	(35.1)	(33.0)	(18.7)	(0.2)
	1956	No.	2,701	367	933	895	497	9
		%	(100.0)	(13.6)	(34.5)	(33.1)	(18.4)	(0.3)
	1961	No.	2,367	369	768	721	492	17
		%	(100.0)	(15.6)	(32.4)	(30.5)	(20.8)	(0.7)
Sub-total	1951	No.	5,131	523	1,568	1,819	1,099	21
		%	(100.0)	(10.2)	(32.5)	(35.5)	(21.4)	(0.4)
	1956	No.	4,780	491	1,537	1,647	1,075	28
		%	(100.0)	(10.3)	(32.2)	(34.5)	(22.5)	(0.6)
	1961	No.	4,138	494	1,199	1,377	1,031	34
		%	(100.0)	(11.9)	(29.0)	(33.3)	(24.9)	(0.8)
B — Niagara								
Haldimand	1951	No.	2,370	69	483	1,057	739	19
		%	(100.0)	(2.9)	(20.4)	(44.6)	(31.2)	(0.8)
	1956	No.	2,305	73	507	966	733	21
		%	(100.0)	(3.2)	(22.0)	(41.9)	(31.8)	(0.9)
	1961	No.	2,070	69	367	848	752	32
		%	(100.0)	(3.3)	(17.7)	(41.0)	(36.3)	(1.5)
Lincoln	1951	No.	3,503	734	1,822	649	283	11
		%	(100.0)	(21.0)	(52.0)	(18.5)	(8.1)	(0.3)
	1956	No.	3,467	781	1,778	604	296	7
		%	(100.0)	(22.5)	(51.3)	(17.4)	(8.5)	(0.2)
	1961	No.	3,238	782	1,590	547	310	8
		%	(100.0)	(24.2)	(49.1)	(16.9)	(9.6)	(0.2)
Welland	1951	No.	2,035	216	869	628	315	7
		%	(100.0)	(10.6)	(42.7)	(30.9)	(15.5)	(0.3)
	1956	No.	1,919	224	810	591	287	6
		%	(100.0)	(11.7)	(42.2)	(30.8)	(15.0)	(0.3)
	1961	No.	1,494	186	589	421	289	8
		%	(100.0)	(12.4)	(39.4)	(28.2)	(19.3)	(0.5)
Sub-total	1951	No.	7,908	1,019	3,174	2,334	1,337	37
		%	(100.0)	(12.9)	(40.1)	(29.5)	(16.9)	(0.1)
	1956	No.	7,691	1,078	3,095	2,161	1,316	34
		%	(100.0)	(14.0)	(40.2)	(28.1)	(17.1)	(0.4)
	1961	No.	6,802	1,037	2,546	1,816	1,351	48
		%	(100.0)	(15.2)	(37.4)	(26.7)	(19.9)	(0.7)
Total, Niagara Region	1951	No.	13,039	1,542	4,842	4,153	2,436	58
		%	(100.0)	(11.8)	(37.1)	(31.9)	(18.7)	(0.1)
	1956	No.	12,471	1,569	4,632	3,808	2,391	62
		%	(100.0)	(12.6)	(37.1)	(30.5)	(19.2)	(0.5)
	1961	No.	10,940	1,531	3,745	3,193	2,382	82
		%	(100.0)	(14.0)	(34.2)	(29.2)	(21.8)	(0.7)
Total, Ontario	1951	No.	149,920	7,385	26,243	53,459	57,938	4,377
		%	(100.0)	(4.9)	(17.5)	(35.7)	(38.6)	(0.3)
	1956	No.	140,602	6,676	24,997	49,000	55,015	4,330
		%	(100.0)	(4.7)	(17.8)	(34.9)	(39.1)	(0.4)
	1961	No.	121,333	6,172	19,181	39,688	50,672	4,908
		%	(100.0)	(5.1)	(15.8)	(32.7)	(41.8)	(0.6)

*Less than 0.05 per cent.

Note: Due to rounding, percentages may not add to 100.

**F FARMS CLASSIFIED BY ECONOMIC CLASS,
COUNTIES, NIAGARA REGION, JUNE 1, 1961**

	Total Census Farms No.	Commercial Farms ¹ No.	Total No.	Other Farms			
				Small Scale ² Part-time No.	Small Scale ² Other No.	Residential and Other ³ No.	Institutional ⁴ No.
A — Burlington							
Brant	1,771	1,346	425	134	99	189	3
Wentworth	2,367	1,565	802	264	184	349	5
Sub-total	4,138	2,911	1,227	398	283	538	8
B — Niagara							
Haldimand	2,070	1,502	568	235	147	186	—
Lincoln	3,238	2,128	1,110	427	264	413	6
Welland	1,494	845	649	225	137	284	3
Sub-total	6,802	4,475	2,327	887	548	883	9
Total, Niagara Region	10,940	7,386	3,554	1,285	831	1,421	17
Total, Ontario	121,333	90,345	30,988	9,920	9,371	11,604	93
Niagara as % of Ontario	9.0	8.2	11.5	13.0	8.9	12.2	18.3

¹All farms, except 'institutional, etc.', with a total value of agricultural products sold of \$1,200 or more.

²Includes farms with sales of agricultural products of \$250 to \$1,199

— 'part-time' includes those on which operator reported 100 days or more of off-farm work, or income from other sources (excluding investments) greater than the income from sale of agricultural products.

— 'other small scale' includes those on which operator reported less than 100 days of off-farm work, and income from sale of agricultural products greater than the income from other sources.

³Includes farms with value of agricultural products sold of less than \$250.

⁴Includes experimental farms, community pastures, Indian reserves and farms operated by institutions regardless of the amount of sales of agricultural products.

**COMMERCIAL FARMS CLASSIFIED BY VALUE OF PRODUCTS SOLD,
COUNTIES, NIAGARA REGION, JUNE 1, 1961**

	Total Commer- cial Farms	Commercial Farms with Value of Products Sold of					
		\$1,200- \$2,499	\$2,500- \$3,749	\$3,750- \$4,999	\$5,000- \$9,999	\$10,000- \$14,999	\$15,000- \$24,999
A — Burlington							
Brant	No. 1,346	185	143	105	307	171	182
	% (100.0)	(13.7)	(10.6)	(7.8)	(22.8)	(12.7)	(13.5)
Wentworth	No. 1,565	316	227	163	414	217	138
	% (100.0)	(20.2)	(14.5)	(10.4)	(26.5)	(13.9)	(8.8)
Sub-total	No. 2,911	501	370	268	721	388	320
	% (100.0)	(17.2)	(12.7)	(9.2)	(24.8)	(13.3)	(11.0)
B — Niagara							
Haldimand	No. 1,502	397	256	161	404	186	57
	% (100.0)	(26.4)	(17.0)	(10.7)	(26.9)	(12.4)	(3.8)
Lincoln	No. 2,128	563	312	220	546	236	143
	% (100.0)	(26.5)	(14.7)	(10.3)	(25.7)	(11.1)	(6.7)
Welland	No. 845	252	131	80	206	81	54
	% (100.0)	(29.8)	(15.5)	(9.5)	(24.4)	(9.6)	(6.4)
Sub-total	No. 4,475	1,212	699	461	1,156	503	254
	% (100.0)	(27.1)	(15.6)	(10.3)	(25.8)	(11.2)	(5.7)
Total, Niagara Region	No. 7,386	1,713	1,069	729	1,877	891	574
	% (100.0)	(23.2)	(14.5)	(9.9)	(25.4)	(12.1)	(7.8)
Total, Ontario	No. 90,345	20,678	15,134	11,442	23,901	8,598	5,781
	% (100.0)	(22.9)	(16.8)	(12.7)	(26.5)	(9.5)	(6.4)
Niagara as % of Ontario	%	8.2	8.3	7.1	6.4	7.9	10.4
							9.9
							11.1

Note: Due to rounding, percentages may not add to 100.

AGRICULTURE

COMMERCIAL FARMS CLASSIFIED BY TYPE OF FARM,
COUNTIES, NIAGARA REGION, JUNE 1, 1961

	Total Commer- cial Farms	Type of Commercial Farm ¹							Other ²
		Dairy	Fruits and Vegetables	Livestock	Poultry	Mixed Farming	Field Crops		
A — Burlington									
Brant	No.	1,346	408	54	333	64	77	361	49
	%	(100.0)	(30.3)	(4.0)	(24.7)	(4.8)	(5.7)	(26.8)	(3.6)
Wentworth	No.	1,565	446	333	397	143	98	30	118
	%	(100.0)	(28.5)	(21.3)	(25.4)	(9.1)	(6.3)	(1.9)	(7.5)
Sub-total ..	No.	2,911	854	387	730	207	175	391	167
	%	(100.0)	(29.3)	(13.3)	(25.1)	(7.1)	(6.0)	(13.4)	(5.7)
B — Niagara									
Haldimand	No.	1,502	636	31	494	116	172	8	45
	%	(100.0)	(42.3)	(2.1)	(32.9)	(7.7)	(11.5)	(0.5)	(3.0)
Lincoln	No.	2,128	346	1,353	179	125	44	9	72
	%	(100.0)	(16.3)	(63.6)	(8.4)	(5.9)	(2.1)	(0.4)	(3.4)
Welland	No.	845	294	187	162	85	57	3	57
	%	(100.0)	(34.8)	(22.1)	(19.2)	(10.1)	(6.7)	(0.4)	(6.7)
Sub-total ..	No.	4,475	1,276	1,571	835	326	273	20	174
	%	(100.0)	(28.5)	(35.1)	(18.7)	(7.3)	(6.1)	(0.4)	(3.9)
Total, Niagara Region	No.	7,386	2,130	1,958	1,565	533	448	411	341
	%	(100.0)	(28.8)	(26.5)	(21.2)	(7.2)	(6.1)	(5.6)	(4.6)
Total, Ontario	No.	90,345	26,246	5,027	37,154	3,727	6,930	4,642	6,619
Niagara as % of Ontario	%	8.2	8.1	38.9	10.0	14.3	10.0	9.0	5.2

¹Generally classified by product type from which 51.0 per cent of total sales was realized.²Includes wheat, small grains, forestry and miscellaneous specialty.

Note: Due to rounding, percentages may not add to 100.

FARM MACHINERY AND ELECTRIC POWER,
COUNTIES, NIAGARA REGION, JUNE 1, 1951, 1956 AND 1961

	Total Farms No.	Autonowbiles		Motor Trucks		Tractors		Farms Reporting		Electric Motors		Grain Combines		Electric Power No.	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
A — Burlington															
Brant	1951	2,236	1,670	74.7	665	29.7	1,532	68.5	838	37.5	183	8.2	1,884	84.3	
	1956	2,079	1,658	79.7	971	46.7	1,789	86.1	n.a.	—	329	15.8	1,956	94.1	
	1961	1,771	1,462	82.6	1,019	57.5	1,562	88.2	938	53.0	402	22.7	1,756	99.2	
Wentworth	1951	2,895	1,975	68.2	1,167	40.3	1,988	68.7	1,011	34.9	172	5.9	2,579	89.1	
	1956	2,701	2,057	76.2	1,428	52.9	2,098	77.7	n.a.	—	287	10.6	2,620	97.0	
	1961	2,367	1,872	79.1	1,323	55.9	1,956	82.6	1,156	48.8	379	16.0	2,316	97.8	
Sub-total	1951	5,131	3,645	71.0	1,832	35.7	3,520	68.6	1,849	36.0	355	6.9	4,463	87.0	
	1956	4,780	3,715	77.0	2,399	50.2	3,887	81.3	n.a.	—	616	12.9	4,576	95.7	
	1961	4,138	3,334	80.6	2,342	56.6	3,518	85.0	2,094	50.6	781	18.9	4,072	98.4	
B — Niagara															
Haldimand	1951	2,370	1,827	77.1	621	26.2	1,702	71.8	1,007	42.5	326	13.8	1,927	81.3	
	1956	2,305	1,854	80.4	893	38.7	1,902	82.5	n.a.	—	558	24.2	2,153	93.4	
	1961	2,070	1,770	85.5	1,007	48.6	1,829	88.4	1,328	64.2	733	35.4	2,018	97.5	
Lincoln	1951	3,503	2,283	65.2	1,829	52.2	2,491	71.1	707	20.2	74	2.1	3,257	93.0	
	1956	3,467	2,568	74.1	2,118	61.1	2,821	81.4	n.a.	—	136	3.9	3,370	97.2	
	1961	3,238	2,516	77.7	2,121	65.5	2,778	85.8	954	29.5	185	5.7	3,183	98.3	
Welland	1951	2,035	1,354	66.5	762	37.4	1,339	65.8	482	23.7	108	5.3	1,842	90.5	
	1956	1,919	1,430	74.5	928	48.4	1,476	76.9	n.a.	—	189	9.8	1,870	97.4	
	1961	1,494	1,142	76.4	835	55.9	1,257	84.1	618	41.4	227	15.2	1,467	98.2	
Sub-total	1951	7,908	5,464	69.1	3,212	40.6	5,532	70.0	2,196	27.8	508	6.4	7,026	88.8	
	1956	7,691	5,852	76.1	3,939	51.2	6,199	80.6	n.a.	—	883	11.5	7,393	96.1	
	1961	6,802	5,428	79.8	3,963	58.3	5,864	86.2	2,900	42.6	1,145	16.8	6,668	98.0	
Total, Niagara Region	1951	13,039	9,109	69.9	5,044	38.7	9,052	69.4	4,045	31.0	863	6.6	11,489	88.1	
	1956	12,471	9,567	76.7	6,338	50.8	10,086	80.9	n.a.	—	1,499	12.0	11,969	96.0	
	1961	10,940	8,762	80.1	6,305	57.6	9,382	85.8	4,994	45.6	1,926	17.6	10,740	98.2	

n.a. not available.
¹ 1/2 h.p. and over.

AGRICULTURE

NUMBER OF LIVESTOCK ON FARMS,
COUNTIES, NIAGARA REGION, JUNE 1, 1951, 1956 AND 1961¹

		Cattle					
		Total No.	For Milk Purposes No.	Swine No.	Sheep No.	Goats No.	Hens and Chickens No.
A — Burlington							
Brant	1951	29,247	18,749	20,395	5,266	65	410,495
	1956	34,422	19,083	22,992	5,560	n.a.	457,211
	1961	38,019	18,839	23,099	4,178	124	369,592
Wentworth	1951	29,974	21,543	25,364	2,237	146	660,714
	1956	33,283	21,585	24,740	2,956	n.a.	689,490
	1961	34,343	20,231	30,079	3,455	221	843,452
Sub-total	1951	59,221	40,292	45,759	7,503	211	1,071,209
	1956	67,705	40,668	47,732	8,516	n.a.	1,146,701
	1961	72,362	39,070	53,178	7,633	345	1,213,044
B — Niagara							
Haldimand	1951	32,653	20,083	22,866	5,193	52	525,734
	1956	39,444	23,203	21,788	6,061	n.a.	471,406
	1961	48,506	26,358	22,868	5,587	150	469,404
Lincoln	1951	15,361	10,485	12,569	1,832	141	378,950
	1956	18,368	12,132	9,682	2,338	n.a.	526,751
	1961	21,820	13,441	12,396	2,114	242	984,202
Welland	1951	13,909	9,619	8,574	1,549	66	241,781
	1956	16,447	10,876	7,374	1,770	n.a.	293,925
	1961	17,786	10,352	10,218	1,667	99	488,792
Sub-total	1951	61,923	40,187	44,009	8,574	259	1,146,465
	1956	74,259	46,211	38,844	10,169	n.a.	1,292,082
	1961	88,112	50,151	45,482	9,368	491	1,942,398
Total, Niagara Region	1951	121,144	80,479	89,768	16,077	470	2,217,674
	1956	141,964	86,879	86,576	18,685	n.a.	2,438,783
	1961	160,474	89,221	98,660	17,001	836	3,155,442

n.a. not available.

¹ 1961 Census figures are not strictly comparable with those of the 1951 and 1956 Censuses, as the definition for 'farm' was changed to include holdings of 1 acre or more with sales of agricultural products during the past 12 months valued at \$50 or more. Definition for 'farm' in 1951 and 1956 Censuses included holdings of 3 acres or more in size or from 1 to 3 acres in size with agricultural production in previous year valued at \$250 or more.

VALUE OF LIVESTOCK ON FARMS,
COUNTIES, NIAGARA REGION, JUNE 1, 1951 AND 1961

	Cattle		Swine		Sheep		Goats		Hens and Chickens		Turkeys	
	1951		1961		1951		1961		1951		1961	
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
A— Burlington												
Brant	7,689,852	6,486,427	891,373	735,060	191,320	82,155	2,600	5,580	589,490	379,304	11,489	209,251
Wentworth	7,527,615	5,915,342	1,014,892	913,259	85,009	69,381	5,840	9,945	908,924	584,731	74,802	214,258
Sub-total	15,217,467	12,401,769	1,906,265	1,648,319	276,329	151,536	8,440	15,525	1,498,414	964,035	86,291	423,509
B— Niagara												
Haldimand	7,880,785	7,992,535	866,570	707,136	185,019	109,764	2,080	6,750	708,860	435,687	167,781	367,508
Lincoln	3,554,000	3,664,211	521,835	377,302	63,678	42,538	5,640	10,890	462,891	704,104	53,986	138,133
Welland	3,519,594	3,059,926	319,014	336,092	59,315	32,531	2,640	4,455	349,952	366,324	65,759	65,356
Sub-total	14,954,379	14,716,672	1,707,419	1,420,530	308,012	184,833	10,360	22,095	1,521,703	1,506,115	287,526	570,997
Total, Niagara Region	30,171,846	27,118,441	3,613,684	3,068,849	584,341	336,369	18,800	37,620	3,020,117	2,470,150	373,817	984,506
Total, Ontario	539,696,630	481,869,696	70,005,527	50,471,941	12,413,022	6,286,611	176,240	337,275	32,865,259	24,020,474	3,512,266	12,091,918
Niagara as % of Ontario	5.6	5.6	5.2	6.1	4.7	5.4	10.7	11.2	9.2	10.3	10.6	8.2

AGRICULTURE

ACREAGE, PRODUCTION AND FARM VALUE OF FIELD CROPS,
NIAGARA REGION, SELECTED YEARS 1946 TO 1961

	Acres No.	Bushels No.	Farm Value \$		Acres No.	Bushels No.	Farm Value \$		Acres No.	Bushels No.	Farm Value \$
Hay ¹											
1946	206,900	383,400 ²	4,722,900		111,800	5,323,400	3,044,600		42,850	1,178,700	1,469,500
1951	229,600	530,300 ²	8,516,200		128,700	6,156,300	5,449,700		90,400	2,248,700	4,618,600
1959	213,800	440,800 ²	5,816,300		150,600	8,028,700	4,949,600		51,700	1,156,000	1,814,900
1960	222,400	488,700 ²	6,521,800		113,100	5,632,000	4,164,700		59,500	1,596,500	2,249,700
1961	214,476	515,900 ²	6,836,600		137,858	7,104,400	5,410,300		60,804	1,909,100	2,549,200
Corn for Husking											
1946	7,360	402,900	427,300		6,690	1,035,200	1,288,700		17,200	154,200 ²	552,500
1951	9,200	456,600	822,100		3,600	579,000	1,286,700		22,700	229,600 ²	1,089,300
1959	34,200	2,009,100	2,385,700		3,490	728,700	1,512,600		24,400	238,500 ²	954,000
1960	23,700	1,343,100	1,695,500		4,000	1,337,000	1,900,500		22,900	218,500 ²	917,700
1961	18,670	1,304,300	1,512,100		4,747	1,695,400	1,440,800		22,989	268,900 ²	1,400,400
Mixed Grains											
1946	37,980	1,801,000	1,109,800		6,810	150,500	307,800		10,000	387,700	289,500
1951	25,900	1,261,000	1,312,600		6,400	131,600	218,200		4,000	149,800	182,900
1959	12,200	623,900	493,300		8,100	166,100	162,300		3,900	164,600	151,400
1960	9,600	485,600	420,900		8,600	190,300	190,100		3,400	137,500	138,800
1961	11,333	578,300	488,100		8,804	225,000	250,300		3,314	149,200	154,800
Field Roots											
1946	2,000	854,100	283,400		2,040	37,130	81,600		5,190	124,950	120,400
1951	1,120	477,100	220,900		1,090	23,700	65,300		4,400	93,900	128,400
1959	890	336,500	186,700		1,200	24,800	45,600		800	14,300	15,400
1960	950	392,400	219,500		1,290	25,900	52,800		900	20,900	23,000
1961	811	406,500	135,900		964	25,326	56,710		2,031	40,666	44,600
Spring Wheat											
1946	1,800	40,400	50,400		35	355	1,080		420	6,900	20,600
1951	2,800	60,800	124,300		390	5,700	23,400		215	4,700	20,000
1959	630	14,600	19,400		60	670	1,900		90	1,300	5,100
1960	750	16,900	22,780		300	6,000	16,700		50	700	2,800
1961	1,070	25,800	37,400		184	3,125	10,410		36	718	2,785
Dry Peas											
1946	750	14,800	41,100		459,825	30.04 ³	13,811,180				
1951	78	1,570	5,100		530,593	45.39 ³	24,083,700				
1959	220	4,200	9,600		506,280	36.59 ³	18,523,800				
1960	250	4,900	11,400		471,690	38.64 ³	18,225,270				
1961	50	1,006	2,490		488,141	41.60 ³	20,307,767				
All Field Crops ⁴											
1946											
1951											
1959											
1960											
1961											

¹Does not include Sugar Beets, Seeded Pasture and Tobacco.²Includes Hay, Clovers, Alsike and Alfalfa.³Tons.⁴Value per acre in dollars.

**ACREAGE, PRODUCTION AND FARM VALUE OF FIELD CROPS,
COUNTIES, NIAGARA REGION, 1961**

	Acres No.	Bushels No.	Farm Value \$		Acres No.	Bushels No.	Farm Value \$
A — Burlington							
		Brant				Wentworth	
Hay	32,594	84,100 ¹	1,110,100		41,237	102,300 ¹	1,356,500
Oats	30,133	1,714,600	1,286,000		33,223	1,744,200	1,360,500
Winter Wheat	11,604	350,400	476,500		9,719	330,400	439,400
Corn for Husking	7,811	565,500	661,600		3,516	263,700	305,900
Potatoes	1,189	395,900	289,000		2,878	1,116,700	949,200
Corn for Fodder	6,048	75,300 ¹	392,300		4,208	54,600 ¹	289,400
Mixed Grains	4,619	258,700	219,900		3,490	176,200	148,000
Rye	8,186	208,700	231,700		270	7,500	8,600
Barley	777	35,900	37,700		806	38,000	39,500
Field Roots	190	91,200	31,900		554	282,500	93,200
Soya Beans	128	3,200	7,100		501	13,300	29,900
Buckwheat	392	7,600	8,400		182	4,100	4,600
Spring Wheat	218	5,300	7,500		166	4,100	5,900
Flax	7	125	410		—	—	—
Dry Beans	5	98	378		1	20	77
Dry Peas	9	180	440		32	646	1,600
All Field Crops*	103,910	45,60 ²	4,737,928		100,783	49,92 ²	5,031,177
B — Niagara							
		Haldimand				Lincoln	
Hay	73,587	167,800 ¹	2,126,000		38,352	95,100 ¹	1,261,000
Oats	44,795	2,100,900	1,575,700		16,197	842,200	640,100
Winter Wheat	22,537	698,600	922,200		6,026	198,900	264,500
Corn for Husking	3,653	243,700	275,400		797	52,000	59,300
Potatoes	106	26,300	24,200		209	59,800	68,200
Corn for Fodder	5,341	52,300 ¹	261,500		3,611	39,700 ¹	210,400
Mixed Grains	2,270	99,000	82,200		361	16,400	13,900
Rye	100	2,600	3,000		158	3,800	4,300
Barley	1,169	53,000	54,600		205	8,700	8,700
Field Roots	26	12,500	4,100		19	9,300	3,100
Soya Beans	231	6,300	14,000		9	226	510
Buckwheat	805	15,900	17,200		29	566	600
Spring Wheat	267	6,400	9,300		149	3,500	5,100
Flax	177	3,000	10,000		—	—	—
Dry Beans	4	80	308		12	240	922
Dry Peas	6	120	300		1	20	50
All Field Crops*	155,074	34.69 ²	5,379,780		66,135	38,41 ²	2,540,182
		Welland				Total, Niagara Region	
Hay	28,706	66,600 ¹	983,000		214,476	515,900 ¹	6,836,600
Oats	13,510	702,500	548,000		137,858	7,104,400	5,410,300
Winter Wheat	10,918	330,800	446,600		60,804	1,909,100	2,549,200
Corn for Husking	2,893	179,400	209,900		18,670	1,304,300	1,512,100
Potatoes	365	96,700	110,200		4,747	1,695,400	1,440,800
Corn for Fodder	3,781	47,000 ¹	246,800		22,989	268,900 ¹	1,400,400
Mixed Grains	593	28,000	24,100		11,333	578,300	488,100
Rye	90	2,400	2,700		8,804	225,000	250,300
Barley	357	13,600	14,300		3,314	149,200	154,800
Field Roots	22	11,000	3,600		811	406,500	135,900
Soya Beans	95	2,300	5,200		964	25,326	56,710
Buckwheat	623	12,500	13,800		2,031	40,666	44,600
Spring Wheat	270	6,500	9,600		1,070	25,800	37,400
Flax	—	—	—		184	3,125	10,410
Dry Beans	14	280	1,100		36	718	2,785
Dry Peas	2	40	100		50	1,006	2,490
All Field Crops*	62,239	42.07 ²	2,618,700		488,141	41.60 ²	20,307,767

*Does not include Sugar Beets, Seeded Pasture and Tobacco.

¹Tons.

²Value per acre in dollars.

AGRICULTURE

**COMMERCIAL SALES OF FLUID MILK, SKIM MILK, FLUID CREAM,
CHOCOLATE DAIRY DRINK AND BUTTERMILK,
NIAGARA REGION, 1961**

Sales Area	Fluid Milk (Quarts)	Skim Milk (Quarts)	Fluid Cream (Quarts)	Chocolate Dairy Drink (Quarts)	Buttermilk (Quarts)
Brant County	7,703,879	818,812	221,009	371,080	83,520
Hamilton ¹	43,795,741	1,945,329	1,442,975	1,076,762	582,421
Niagara Peninsula ²	30,364,151	1,268,635	775,449	772,953	301,711
Total, Province of Ontario	573,007,500	36,545,200	22,134,400	17,014,000	7,556,900

¹Hamilton; Burlington, Dundas, Stoney Creek, Waterdown; Ancaster, Barton, Saltfleet, East and West Flamborough Townships and part of Nelson Township.

²Counties of Lincoln and Welland.

Note: Total for Region is not shown as figures are not available for a number of firms throughout the Province which have not yet been included in a specific sales area.

**TOTAL PURCHASES* OF MILK FROM FARMERS BY COMMERCIAL DAIRIES
FOR FLUID SALES,
NIAGARA REGION, 1961**

Sales Area	Milk Bought (lbs.)	Average Price per Cwt.	Total Cost \$
		\$	
Brant County	30,227,856	4.44	1,342,451
Hamilton ¹	143,259,109	4.76	6,822,959
Niagara Peninsula ²	109,865,374	4.66	5,125,715
Total, Province of Ontario	2,079,657,700	4.55	94,674,200

*Supply obtained by inter-plant purchases or transfers not included.

¹Hamilton; Burlington, Dundas, Stoney Creek, Waterdown; Ancaster, Barton, Saltfleet, East and West Flamborough Townships and part of Nelson Township.

²Counties of Lincoln and Welland.

Note: Total for Region is not shown as figures are not available for a number of firms throughout the Province which have not yet been included in a specific sales area.

**ESTIMATED VALUE OF MARKETED PRODUCTION OF COMMERCIAL FRUITS,
NIAGARA REGION¹, 1958 TO 1961**

Fruits	1958		1959		1960		1961	
	Value $	% of Ontario	Value $	% of Ontario	Value $	% of Ontario	Value \$	% of Ontario
Peaches	2,921,610	64.5	3,186,520	71.5	3,614,790	72.4	4,197,262	75.4
Grapes	5,077,625	99.3	3,352,500	86.6	4,786,305	99.4	4,030,406	99.3
Cherries, Sour	1,091,880	56.4	530,140	65.1	824,316	62.2	1,762,124	76.4
Cherries, Sweet	853,740	88.2	894,000	91.0	595,422	84.3	808,130	88.2
Pears, Bartlett	388,050	55.5	371,028	66.8	494,040	67.1	573,040	69.0
Pears, Other	659,581	89.8	631,958	89.3	766,376	87.2	570,787	85.9
Strawberries	545,772	36.6	374,990	26.6	617,352	32.4	571,350	32.6
Apples	270,875	6.9	339,690	6.9	469,475	6.7	507,725	8.1
Plums	432,944	90.1	354,640	88.0	245,510	80.7	381,396	89.0
Prunes	234,768	85.1	131,604	67.8	120,976	56.6	148,819	63.2
Raspberries	285,970	28.3	190,920	21.6	212,250	18.9	199,113	19.4
Cantaloupe	27,556	17.6	14,850	5.4	14,098	4.0	18,000	4.3
Total, Niagara Region	12,790,371	60.1	10,372,840	53.2	12,760,910	52.1	13,768,152	56.2
Total, Canada ²	41,192,000		40,106,000		50,575,000		51,049,000	
Niagara Region as % of Canada ²	31.1		25.9		25.2		27.0	

¹Comprises Fruit and Vegetable Districts covering Counties of Haldimand (Eastern part), Halton, Lincoln, Welland and Wentworth, as outlined by Ontario Department of Agriculture.

²Exclusive of cantaloupe, apricots and 'other small fruit'.

Source: Ontario Department of Agriculture.

**ESTIMATED PRODUCTION OF COMMERCIAL FRUITS,
NIAGARA REGION¹, 1951 TO 1961²**

Fruits	1951	1952	1953	1954	1955	1957	1958	1959	1960	1961
Peaches	bu.	1,103,225	2,086,825	1,941,220	1,752,495	1,927,545	1,687,200	1,940,270	1,664,600	1,331,500
Grapes	tons	42,465	41,258	38,551	45,000	45,870	33,142	51,525	35,500	55,650
Cherries, Sour	bu.	233,615	184,410	141,060	313,500	362,010	235,354	281,160	172,325	150,400
Cherries, Sweet	bu.	52,250	108,300	70,400	80,360	100,090	124,940	162,590	162,000	80,400
Pears, Bartlett	bu.	185,410	163,550	187,700	159,130	220,390	77,650	190,945	152,540	174,800
Pears, Other	bu.	281,180	476,950	460,640	384,960	485,615	246,815	487,380	487,126	529,800
Strawberries	qts.	1,544,960	1,974,000	1,781,600	1,841,760	1,592,045	1,990,302	2,456,365	1,627,000	3,351,750
Apples	bu.	291,270	260,400	211,780	198,115	305,525	232,853	304,700	340,000	265,950
Plums	bu.	289,435	375,380	343,310	301,720	379,740	235,700	250,500	224,325	158,000
Prunes	bu.	45,525	132,155	145,355	159,880	166,840	105,010	126,810	85,410	64,050
Raspberries	qts.	800,850	597,350	565,100	566,610	409,305	650,100	743,800	466,800	510,870
Cantaloupe	bu.	20,625	57,000	35,000	41,750	27,750	13,700	12,590	7,425	7,920

¹Comprises Fruit and Vegetable Districts covering Counties of Haldimand (Eastern part), Halton, Lincoln, Welland and Wentworth, as outlined by Ontario Department of Agriculture.

²Figures for 1956 not available on a regional basis.

Source: Ontario Department of Agriculture.

**ESTIMATED ACREAGE OF COMMERCIAL FRUITS,
NIAGARA REGION¹, 1951 TO 1961²**

Fruits	1951	1952	1953	1954	1955 (acres)		1957	1958	1959	1960	1961	% Change 1961/1951
					1955	1957						
Peaches	13,120	13,100	12,900	12,900	13,100	11,340	11,320	11,000	11,000	11,000	11,000	-16.2
Grapes	20,720	20,740	20,740	20,740	20,940	20,350	20,350	20,250	20,750	20,750	20,750	0.1
Cherries, Sour	3,025	2,810	2,810	3,010	3,350	2,920	2,920	2,865	2,865	2,865	2,865	-5.3
Cherries, Sweet	1,660	1,210	1,210	1,410	1,510	1,170	1,170	1,680	1,680	1,680	1,680	-3.6
Pears, Bartlett	1,725	1,625	1,610	1,710	1,710	1,720	1,720	1,610	1,620	1,620	1,620	-6.1
Pears, Other	3,865	3,890	3,835	4,035	4,035	3,925	3,925	3,540	3,500	3,500	3,500	-9.4
Strawberries	860	1,087	1,061	1,026	1,060	1,150	1,280	1,310	1,325	1,325	1,325	54.1
Apples	4,850	3,600	3,300	2,650	2,650	2,390	2,350	2,500	2,500	2,500	2,500	-48.5
Plums	4,000	2,795	2,575	2,565	2,465	2,200	2,200	2,200	2,025	2,025	1,875	-53.1
Prunes	1,410	1,305	1,355	1,505	1,555	1,135	1,135	1,135	1,110	1,110	1,110	-21.3
Raspberries	385	375	340	325	335	390	380	325	325	325	325	-15.6
Cantaloupe	185	170	155	125	115	80	77	45	48	48	48	-74.1
Total Acreage	55,805	52,707	51,891	52,001	52,825	49,270	48,842	48,200	48,668	48,518	48,518	-13.1
% Annual Change in Acreage	—	-5.6	-1.5	0.2	1.6	n.a.	-0.9	-1.3	1.0	—0.3	—0.3	
Total Acreage, Ontario	96,259	89,838	87,567	84,850	86,284	83,602	81,827	80,896	81,928	81,696	81,696	-15.1
Niagara as % of Ontario	58.0	58.7	59.3	61.3	61.2	58.9	59.7	59.6	59.4	59.4	59.4	

¹Comprises Fruit and Vegetable Districts covering Counties of Haldimand (Eastern part), Halton, Lincoln, Welland and Wentworth, as outlined by Ontario Department of Agriculture.

²Figures for 1956 not available on a regional basis.

Source: Ontario Department of Agriculture.

**NUMBER OF FRUIT TREES¹, NIAGARA REGION,
CENSUS YEARS 1931 TO 1961**

		1931		1941		1951		1961	
		No.	% of Ontario	No.	% of Ontario	No.	% of Ontario	No.	% of Ontario
Peach Trees	Niagara	802,199	86.6	1,723,697	83.5	1,551,620	81.1	1,169,269	76.4
	Ontario	926,164		2,063,959		1,913,031		1,531,079	
Pear Trees	Niagara	257,984	57.2	485,671	69.3	616,255	74.4	555,953	76.2
	Ontario	450,722		700,425		828,080		729,778	
Cherry Trees	Niagara	210,660	46.5	362,968	65.2	418,101	73.7	400,041	75.7
	Ontario	453,446		556,493		566,945		528,694	
Apple Trees	Niagara	494,442	11.4	371,085	12.9	188,288	12.5	179,787	13.1
	Ontario	4,341,771		2,866,731		1,509,497		1,371,205	
Other Trees ²	Niagara	317,358	59.4	405,839	70.4	542,407	85.6	327,696	84.4
	Ontario	534,588		576,127		633,543		388,144	
Total Fruit Trees	Niagara	2,082,643	31.1	3,349,260	49.5	3,316,671	60.8	2,632,746	57.9
	Ontario	6,706,691		6,763,735		5,451,096		4,548,900	

¹On farms having 50 or more fruit trees in 1941, and 25 or more in 1951 and 1961.

²Includes plum, prune and apricot trees, except for years 1931 and 1951 when figures available for plum trees only.

Source: Dominion Bureau of Statistics.

**PEACH TREES OF BEARING AGE ON FARMS¹,
COUNTIES, NIAGARA REGION, CENSUS YEARS 1941 TO 1961**

	1941		1951		1961	
	Trees 5 yrs. and over	Proportion %	Trees 5 yrs. and over	Proportion %	Trees 5 yrs. and over	Proportion %
Brant	1,402	0.1	1,434	0.1	3,515	0.3
Haldimand	587	0.1	141	*	316	*
Lincoln	827,026	73.9	860,246	73.5	754,014	70.9
Welland	64,533	5.8	71,860	6.1	62,679	5.9
Wentworth	103,730	9.3	82,352	7.0	43,935	4.2
Total, Niagara Region	997,278	89.2	1,016,033	86.7	864,459	81.3
Total, Ontario	1,117,941	100.0	1,171,302	100.0	1,063,510	100.0

*Less than 0.05 per cent.

¹On farms having 25 or more fruit trees.

Source: Dominion Bureau of Statistics.

**PLUM TREES OF BEARING AGE ON FARMS¹,
COUNTIES, NIAGARA REGION, CENSUS YEARS 1941 TO 1961**

	1941 ²		1951		1961	
	Trees 5 yrs. and over	Proportion %	Trees 5 yrs. and over	Proportion %	Trees 5 yrs. and over	Proportion %
Brant	712	0.2	393	0.1	680	0.2
Haldimand	190	0.1	168	*	164	0.1
Lincoln	138,399	48.2	237,462	57.7	199,161	61.0
Welland	8,177	2.8	13,371	3.3	22,426	6.9
Wentworth	90,850	31.7	113,838	27.6	64,266	19.7
Total, Niagara Region	238,328	83.0	365,232	88.7	286,697	87.9
Total, Ontario	287,070	100.0	411,978	100.0	326,349	100.0

*Less than 0.05 per cent.

¹On farms having 25 or more fruit trees.

²Includes apricot trees.

Source: Dominion Bureau of Statistics.

AGRICULTURE

**PEAR TREES OF BEARING AGE ON FARMS¹,
COUNTIES, NIAGARA REGION, CENSUS YEARS 1941 TO 1961**

	1941		1951		1961	
	Trees 10 yrs. and over	Proportion %	Trees 10 yrs. and over	Proportion %	Trees 10 yrs. and over	Proportion %
Brant	1,168	0.5	2,899	0.6	7,755	1.4
Haldimand	301	0.1	209	*	735	0.1
Lincoln	118,520	52.7	247,773	53.5	307,249	56.4
Welland	7,978	3.6	25,472	5.5	40,981	7.5
Wentworth	44,976	20.0	85,015	18.4	80,690	14.8
Total, Niagara Region	172,943	76.9	361,368	78.0	437,410	80.2
Total, Ontario	225,019	100.0	463,295	100.0	545,346	100.0

¹Less than 0.05 per cent.²On farms having 25 or more fruit trees.

Source: Dominion Bureau of Statistics.

**CHERRY TREES OF BEARING AGE ON FARMS¹,
COUNTIES, NIAGARA REGION, CENSUS YEARS 1941 TO 1961**

	1941		1951		1961	
	Trees 5 yrs. and over	Proportion %	Trees 5 yrs. and over	Proportion %	Trees 5 yrs. and over	Proportion %
Brant	1,190	0.4	921	0.3	2,660	0.7
Haldimand	589	0.2	221	0.1	436	0.1
Lincoln	113,234	42.1	154,264	47.6	187,683	46.7
Welland	24,202	9.0	33,746	10.4	48,271	12.0
Wentworth	60,208	22.4	65,826	20.3	66,491	16.5
Total, Niagara Region	199,423	74.1	254,978	78.7	305,541	76.0
Total, Ontario	269,060	100.0	323,858	100.0	401,901	100.0

¹On farms having 25 or more fruit trees.

Source: Dominion Bureau of Statistics.

**APPLE TREES OF BEARING AGE ON FARMS¹,
COUNTIES, NIAGARA REGION, CENSUS YEARS 1941 TO 1961**

	1941		1951		1961	
	Trees 10 yrs. and over	Proportion %	Trees 10 yrs. and over	Proportion %	Trees 10 yrs. and over	Proportion %
Brant	14,886	1.3	13,445	1.3	14,125	1.6
Haldimand	3,512	0.3	1,759	0.2	2,916	0.3
Lincoln	62,074	5.5	47,531	4.5	33,883	3.8
Welland	30,117	2.6	24,082	2.3	17,729	2.0
Wentworth	76,224	6.7	46,388	4.3	47,318	5.3
Total, Niagara Region	186,813	16.4	133,205	12.6	115,971	13.0
Total, Ontario	1,140,120	100.0	1,059,106	100.0	889,432	100.0

¹On farms having 25 or more fruit trees.

Source: Dominion Bureau of Statistics.

ACREAGE OF SMALL FRUITS (CULTIVATED)¹ AND GREENHOUSES²,
NIAGARA REGION, CENSUS YEARS 1931 TO 1961

		1931		1941		1951		1961	
		Acres	% of Ontario	Acres	% of Ontario	Acres	% of Ontario	Acres	% of Ontario
Grapes	Niagara	15,122	86.0	15,786	93.5	20,438	95.8	21,812	98.4
	Ontario	17,577		16,876		21,331		22,161	
Strawberries	Niagara	n.a.	—	1,098	28.8	1,396	28.7	1,685	38.5
	Ontario	n.a.		3,809		4,869		4,381	
Raspberries	Niagara	n.a.	—	746	24.3	598	19.9	498	19.8
	Ontario	n.a.		3,071		3,012		2,510	
Other Small Fruits	Niagara	n.a.	—	369	61.1	254	48.9	117	74.5
	Ontario	n.a.		604		519		157	
Total Small Fruits	Niagara	16,988	67.4	17,999	73.9	22,686	76.3	24,112	82.5
	Ontario	25,198		24,360		29,731		29,209	
Greenhouses ² , Total Area	Niagara	n.a.	—	n.a.	—	28.9	14.0	52.6	13.2
	Ontario	262.5		238.4		206.8		397.9	

n.a. not available.

¹Mainly for sale.

²Includes mushroom and rhubarb houses.

Source: Dominion Bureau of Statistics.

ESTIMATED VALUE OF MARKETED PRODUCTION,
PRINCIPAL COMMERCIAL VEGETABLES,
NIAGARA REGION¹, 1958 TO 1961

	1958		1959		1960		1961	
	Value ($)	% of Ontario (%)	Value ($)	% of Ontario (%)	Value ($)	% of Ontario (%)	Value (\$)	% of Ontario (%)
Mushrooms	280,140	9.0	255,245	8.7	268,056	9.7	821,070	34.4
Tomatoes (Fresh Market)	1,174,598	28.1	693,298	17.3	567,095	13.5	485,424	11.3
(Processing)	460,214	4.1	506,328	5.2	688,709	5.6	557,957	5.3
Asparagus	218,780	19.5	194,876	18.1	212,223	18.6	205,120	19.0
Total, Niagara Region	2,133,732	11.0	1,649,747	9.2	1,736,083	8.5	2,069,571	11.3
Total, Ontario*	19,428,600		17,849,500		20,492,036		18,286,064	

*Revised.

¹Comprises Fruit and Vegetable Districts covering Counties of Haldimand (Eastern part), Halton, Lincoln and Wentworth, as outlined by Ontario Department of Agriculture except for data concerning Tomatoes for Processing.

Source: Ontario Department of Agriculture.

ESTIMATED PRODUCTION OF PRINCIPAL COMMERCIAL VEGETABLES,
NIAGARA REGION¹, 1951 TO 1961²

	1951	1952	1953	1954	1955	1957	1958	1959	1960	1961
Mushrooms	250,000	290,000	290,000	400,000	500,000	n.a.	667,000	627,500	734,900	2,159,000
Tomatoes (Fresh Market)	571,000	363,750	390,900	457,750	446,975	457,000	496,975	280,075	291,767	249,390
(Processing)	743,733	1,372,666	673,400	622,067	597,300	349,100	439,967	485,100	632,967	527,267
Asparagus	1,254,000	1,210,000	1,284,000	1,154,000	1,220,000	1,050,000	1,018,000	1,118,800	1,157,700	1,123,200

¹Comprises Fruit and Vegetable Districts covering Counties of Haldimand (Eastern part), Halton, Lincoln and Wentworth, as outlined by Ontario Department of Agriculture, except for data concerning Tomatoes for Processing.

²Figures for 1956 not available on a regional basis.

Source: Ontario Department of Agriculture.

ESTIMATED ACREAGE OF PRINCIPAL COMMERCIAL VEGETABLES,
NIAGARA REGION¹, 1951 TO 1961²

	1951	1952	1953	1954	1955	1957	1958	1959	1960	1961
Mushrooms*	175,000	190,000	190,000	200,000	250,000	n.a.	239,300	239,300	239,400	632,000
Tomatoes (Fresh Market)	1,780	1,897	2,270	2,585	2,655	2,435	1,625	1,753	1,706	1,431
(Processing)	3,559	5,744	3,558	2,748	3,352	2,028	2,045	1,706	1,857	1,288
Asparagus	540	540	594	650	637	610	584	584	598	624
Total, Niagara Region	5,883.0	8,185.4	6,426.4	5,987.6	6,649.7	n.a.	5,069.5	3,920.5	4,213.5	3,357.5
Total, Ontario**	44,587.1	43,374.5	32,609.8	31,944.4	37,981.7	42,752.1	43,081.7	34,726.5	34,259.5	28,829.4
Niagara as % of Ontario	13.2	18.9	19.7	18.7	17.5	—	11.8	11.3	12.3	11.6

*Area in square feet.

**Revised.

¹Comprises Fruit and Vegetable Districts covering Counties of Haldimand (Eastern part), Halton, Lincoln and Wentworth, as outlined by Ontario Department of Agriculture, except for data concerning Tomatoes for Processing.

²Figures for 1956 not available on a regional basis.

Source: Ontario Department of Agriculture.

**ESTIMATED ACREAGE APPROVED IN PLANS OF SUBDIVISION
WITH RESPECT TO TENDER FRUIT AREAS,
MUNICIPALITIES, NIAGARA REGION, 1947 TO 1962**

Municipality	Total Acreage				Acreage in Tender Fruit Area				Acreage in Tender Fruit Area as Per Cent of Total			
	1947- 1950	1951- 1954	1955- 1958	1959- 1962	1947- 1950	1951- 1954	1955- 1958	1959- 1962	1947- 1950	1951- 1954	1955- 1958	1959- 1962
Beamsville Village	—	7	15	12	—	—	—	—	—	—	—	—
Clinton Twp.	—	25	33	10	—	—	12	—	—	—	36	—
Fonthill Village	9	58	37	9	9	39	37	9	100	67	100	100
Grimsby Town	11	56	100	48	3	4	11	5	27	7	11	10
N. Grimsby Twp.	2	42	185	94	2	27	88	13	100	64	48	14
Hamilton City	527	1,185	228	395	5	37	18	42	1	3	8	11
Louth Twp.	169	18	79	1	69	11	20	1	41	61	25	100
Niagara Twp.	31	95	59	—	31	11	52	—	100	12	88	—
Pelham Twp.	—	—	15	13	—	—	15	13	—	—	100	100
Salfleet Twp.	10	213	112	12	—	102	52	2	—	48	46	16
St. Catharines City	362	1,263	350	140	157	559	66	72	43	44	19	51
Stamford Twp.	315	585	461	41	121	112	146	2	38	19	32	5
Stoney Creek Town	17	96	54	22	11	40	28	3	64	42	52	14
TOTAL	1,453	3,643	1,728	797	408	942	545	162				
Average Annual Rate	363	910	432	199	102	235	136	40	28%	26%	31%	20%

Source: Community Planning Branch, Department of Municipal Affairs.

**VALUE OF MINERAL PRODUCTION BY PRINCIPAL GROUPS,
COUNTIES, NIAGARA REGION, 1960**

	Metallics (\$000's)	Non- Metallics (\$000's)	Fuels (\$000's)	Structural Materials (\$000's)	Total Value (\$000's)	% of Region %
A — Burlington						
Brant	—	—	*	3,032.2	3,032.2	14.8
Wentworth	—	37.1	*	4,934.0	4,971.1	24.3
Sub-total	—	37.1	*	7,966.2	8,003.3	39.1
B — Niagara						
Haldimand	—	871.4	289.1**	2,016.0	3,176.5	15.6
Lincoln	—	—	*	2,499.8	2,499.8	12.2
Welland	—	339.4	119.4	6,309.2	6,768.0	33.1
Sub-total	—	1,210.8	408.5	10,825.0	12,444.3	60.9
Total, Niagara Region	—	1,247.9	408.5	18,791.2	20,447.6	100.0

*Included with Haldimand County.

**Includes Brant, Wentworth and Lincoln Counties.

**MINERAL PRODUCTION AND VALUE,
NIAGARA REGION, 1953, 1956 AND 1960**

	1953			1956			1960			
	Ontario		Niagara Region	Ontario		Niagara Region	Ontario		Niagara Region	
			%			%			%	
Total Value of Production	(\$000's)	465,877.1	15,867.6	3.4	650,823.4	20,210.7	3.1	983,104.4	20,447.6	2.1
Non-Metallics	(\$000's)	13,183.3	952.2	7.2	18,726.6	937.9	5.0	25,257.2	1,247.9	4.9
Gypsum	tons	334,495	334,495	100.0	366,956	366,956	100.0	355,603	355,603	100.0
Peat	(\$000's)	899.6	899.6	100.0	840.8	840.8	100.0	871.4	871.4	100.0
Fuels	tons	1,319	1,319	100.0	3,267	3,267	100.0	13,566	13,566	100.0
Natural Gas	(\$000's)	52.5	52.5	100.0	97.1	97.1	100.0	338.6	338.6	100.0
Quartz	tons	1,450,770	—	—	1,571,819	—	—	1,659,410	11,866	0.7
Fuels	(\$000's)	1,301.0	—	—	1,413.2	—	—	998.3	37.9	3.8
Structural Materials	(\$000's)	4,878.4	771.7	15.8	6,698.4	715.0	10.7	9,724.1	408.5	4.2
Cement	M. cu. ft.	9,708,969	1,929,342	19.9	12,811,618	1,932,357	15.1	16,987,056	1,055,508	6.2
Lime	(\$000's)	3,883.6	771.7	19.9	4,740.3	715.0	15.1	6,574.0	408.5	6.2
Sand and Gravel	(\$000's)	77,219.3	14,143.7	18.3	104,087.0	18,557.8	17.8	130,320.1	18,791.2	14.4
Stone: Limestone	(\$000's)	— [*]	—							
		14,829.2	2,327.5	15.7	19,173.3	3,238.7	16.9	20,191.3	2,420.9	12.0
	tons	1,238,682	209,610	16.9	1,450,437	203,686	14.0	2,007,044	94,045	4.7
	(\$000's)	18,497.7	3,537.6	19.1	21,455.0	3,353.1	15.6	30,639.8	1,536.7	5.0
	tons	659,062	—	—	673,357	—	—	990,088	182,333	18.4
	(\$000's)	7,714.3	—	—	8,258.9	—	—	12,278.6	2,083.4	17.0
	tons	43,658,099	4,206,458	9.6	61,436,363	6,383,361	10.4	77,660,833	8,259,058	10.6
	(\$000's)	24,359.5	3,152.6	12.9	34,379.0	4,335.0	12.9	43,929.7	4,882.0	11.1
	tons	8,390,852	4,419,883	52.7	15,207,534	6,349,754	41.8	16,118,571	7,120,289	44.2
	(\$000's)	10,359.7	5,126.0	49.5	18,941.6	7,531.0	39.8	18,782.1	7,888.2	42.0

^{*}No common measure.

Note: Due to rounding, figures may not add to totals.

GENERATING STATIONS OF THE HYDRO-ELECTRIC POWER COMMISSION
OF ONTARIO IN THE NIAGARA REGION, DECEMBER 31, 1962,
SHOWING INCREASED CAPACITY SINCE 1945

	Year of Installation		Additional Capacity Installed Since 1945 (Kw)	Dependable ¹ Peak Capacity December, 1961 (Kw)
	First Unit	Latest Unit		
DeCew Falls No. 1	1901	1913	—	26,000
DeCew Falls No. 2	1943	1947	71,425	130,000
Ontario Power	1905	1919	—	67,000
Sir Adam Beck — Niagara No. 1	1922	1930	6,300	440,000
Sir Adam Beck — Niagara No. 2	1954	1958	1,400,300	1,335,000
— Pumping-Generating Station	1957	1958		150,000
Toronto Power	1906	1915	—	37,000
Total, Niagara Region			1,478,025	2,185,000
Total, Ontario			3,850,660²	6,113,250
Niagara Region as % of Ontario			38.4	35.7

¹Exclusive of Purchased Power.²Exclusive of Thermal-Electric and Diesel-Electric Power.

Note: Since the maximum capacities of the various generating stations do not coincide, their totals are not the peak loads for Niagara Region nor Ontario.

ENERGY

**ONTARIO HYDRO SALES* OF POWER,
NIAGARA REGION, 1951 AND 1957 TO 1962**

	1951	1957	1958	1959	1960	1961	1962	% Change									
								(millions of kilowatt-hours)	1962/ 1951	1962/ 1961							
A — Burlington																	
Primary																	
Domestic (Incl. Hamlet and Summer Cottage)	257.7	494.6	513.9	543.4	574.3	610.1	626.1	143.0	2.6								
Farm	27.1	34.8	38.0	40.4	40.9	45.3	46.7	72.3	3.1								
Commercial	112.4	191.7	204.3	221.6	240.5	273.2	294.2	161.7	7.7								
Power (Incl. Direct Industrial)	956.7	1,227.8	1,186.2	1,521.1	1,598.8	1,692.3	1,838.4	92.2	8.6								
Street Lighting	13.8	20.2	21.5	22.2	22.6	23.9	26.4	91.3	10.5								
Total	<u>1,367.7</u>	<u>1,969.1</u>	<u>1,963.9</u>	<u>2,348.7</u>	<u>2,477.1</u>	<u>2,644.8</u>	<u>2,831.8</u>	<u>107.0</u>	<u>7.1</u>								
Secondary Power	—	—	—	—	—	—	—	—	—								
Total, Primary and Secondary	<u>1,367.7</u>	<u>1,969.1</u>	<u>1,963.9</u>	<u>2,348.7</u>	<u>2,477.1</u>	<u>2,644.8</u>	<u>2,831.8</u>	<u>107.0</u>	<u>7.1</u>								
B — Niagara																	
Primary																	
Domestic (Incl. Hamlet and Summer Cottage)	149.5	317.3	315.2	328.6	345.8	363.6	379.6	153.9	4.4								
Farm	27.8	44.6	45.1	47.6	49.3	52.0	52.8	89.9	1.5								
Commercial	59.3	103.3	109.8	121.3	128.4	144.2	155.8	162.7	8.0								
Power (Incl. Direct Industrial)	2,884.4	3,088.4	2,507.4	2,951.7	2,895.3	2,786.4	3,109.3	7.8	11.6								
Street Lighting	7.5	11.2	12.2	13.1	13.8	15.4	15.8	110.7	2.6								
Total	<u>3,128.5</u>	<u>3,564.8</u>	<u>2,989.7</u>	<u>3,462.3</u>	<u>3,432.6</u>	<u>3,361.6</u>	<u>3,713.3</u>	<u>18.7</u>	<u>10.5</u>								
Secondary Power	1.3	22.9	75.3	87.1	59.2	350.3	491.5	**	40.3								
Total, Primary and Secondary	<u>3,129.8</u>	<u>3,587.7</u>	<u>3,065.0</u>	<u>3,549.4</u>	<u>3,491.8</u>	<u>3,711.9</u>	<u>4,204.8</u>	<u>34.3</u>	<u>13.3</u>								
Total, Niagara Region																	
Primary																	
Domestic (Incl. Hamlet and Summer Cottage)	407.2	811.9	829.1	872.0	920.1	973.7	1,005.7	147.0	3.3								
Farm	54.9	79.4	83.1	88.0	90.2	97.3	99.5	81.2	2.3								
Commercial	171.7	295.0	314.1	342.9	368.9	417.4	450.0	162.1	7.8								
Power (Incl. Direct Industrial)	3,841.1	4,316.2	3,693.6	4,472.8	4,494.1	4,478.7	4,947.7	28.8	10.5								
Street Lighting	21.3	31.4	33.7	35.3	36.4	39.3	42.2	98.1	7.4								
Total	<u>4,496.2</u>	<u>5,533.9</u>	<u>4,953.6</u>	<u>5,811.0</u>	<u>5,909.7</u>	<u>6,006.4</u>	<u>6,545.1</u>	<u>45.6</u>	<u>9.0</u>								
Secondary Power	1.3	22.9	75.3	87.1	59.2	350.3	491.5	**	40.3								
Total, Primary and Secondary	<u>4,497.5</u>	<u>5,556.8</u>	<u>5,028.9</u>	<u>5,898.1</u>	<u>5,968.9</u>	<u>6,356.7</u>	<u>7,036.6</u>	<u>56.5</u>	<u>10.7</u>								

*Sales to ultimate customers served directly or indirectly by The Hydro-Electric Power Commission of Ontario (customers of Municipal Electrical Utilities, Ontario Hydro's Local Systems, Rural Operating Areas and Direct Industrial Customers).

**More than 1,000 per cent.

Note: Due to rounding, figures may not add to totals.

**ONTARIO HYDRO REVENUE* FROM POWER,
NIAGARA REGION, 1951 AND 1957 TO 1962**

	1951	1957	1958	1959	1960	1961	1962	% Change 1962/ 1951	% Change 1962/ 1961
(thousands of dollars)									
A — Burlington									
Primary									
Domestic (Incl. Hamlet and Summer Cottage)	3,068	6,137	6,507	6,798	7,097	7,527	7,643	149.1	1.5
Farm	497	664	711	757	747	799	798	60.6	-0.1
Commercial	1,380	2,569	2,730	2,907	3,128	3,518	3,648	164.3	3.7
Power (Incl. Direct Industrial)	5,741	8,935	8,817	10,540	11,182	11,595	12,452	116.9	7.4
Street Lighting	267	381	422	451	477	524	571	113.9	9.0
Total	10,953	18,686	19,187	21,453	22,631	23,963	25,112	129.3	4.8
Secondary Power	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	1	3	—	200.0
Total, Primary, Secondary and Other	10,953	18,686	19,187	21,453	22,631	23,964	25,115	129.3	4.8
B — Niagara									
Primary									
Domestic (Incl. Hamlet and Summer Cottage)	1,916	4,431	4,648	4,835	5,141	5,370	5,391	181.4	0.4
Farm	491	860	877	910	925	957	950	93.5	-0.7
Commercial	847	1,747	1,859	2,028	2,152	2,369	2,479	192.7	4.6
Power (Incl. Direct Industrial)	10,849	16,274	14,172	16,014	16,127	15,447	16,964	56.4	9.8
Street Lighting	187	248	285	328	340	374	414	121.4	10.7
Total	14,290	23,560	21,841	24,115	24,685	24,517	26,198	83.3	6.9
Secondary Power	6	—	44	51	52	55	59	883.3	7.3
Other	—	—	—	—	—	3	5	—	66.7
Total, Primary, Secondary and Other	14,296	23,560	21,885	24,166	24,737	24,575	26,262	83.7	6.9
Total, Niagara Region									
Primary									
Domestic (Incl. Hamlet and Summer Cottage)	4,984	10,568	11,155	11,633	12,238	12,897	13,034	161.5	1.1
Farm	988	1,524	1,588	1,667	1,672	1,756	1,748	76.9	-0.5
Commercial	2,227	4,316	4,589	4,935	5,280	5,887	6,127	175.1	4.1
Power (Incl. Direct Industrial)	16,590	25,209	22,989	26,554	27,309	27,042	29,416	77.3	8.8
Street Lighting	454	629	707	779	817	898	985	117.0	9.7
Total	25,243	42,246	41,028	45,568	47,316	48,480	51,310	103.3	5.8
Secondary Power	6	—	44	51	52	55	59	883.3	7.3
Other	—	—	—	—	—	4	8	—	100.0
Total, Primary, Secondary and Other	25,249	42,246	41,072	45,619	47,368	48,539	51,377	103.5	5.8

*Revenue from ultimate customers served directly or indirectly by The Hydro-Electric Power Commission of Ontario (customers of Municipal Electrical Utilities, Ontario Hydro's Local Systems, Rural Operating Areas and Direct Industrial Customers).

Note: Due to rounding, figures may not add to totals.

MANUFACTURING

PRINCIPAL STATISTICS OF MANUFACTURING INDUSTRIES,
COUNTIES, NIAGARA REGION, SELECTED YEARS 1946 TO 1960

	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)	Cost at Plant of Materials Used (\$000's)	Net Value of Products ¹ (\$000's)	Selling Value of Factory Shipments ² (\$000's)
A — Burlington							
Brant							
1946	169	13,673	23,305	1,255	35,753	39,106	76,114
1951	207	15,390	41,831	2,021	80,226	76,545	158,792
1956	220	12,732	41,428	2,361	85,098	76,183	163,642
1959	234	12,968	48,915	2,684	99,210	86,772	188,666
1960	241	11,916	46,017	2,621	91,434	88,098	182,153
Wentworth							
1946	574	47,968	84,152	10,674	155,587	152,510	318,771
1951	639	61,346	179,876	20,814	399,392	352,288	772,494
1956	681	61,241	239,970	29,371	513,021	473,179	1,015,571
1959	623	55,634	254,003	23,369	543,259	558,937	1,125,565
1960	661	53,927	254,229	24,096	532,419	516,324	1,072,839
Sub-total							
1946	743	61,641	107,457	11,929	191,340	191,616	394,885
1951	846	76,736	221,707	22,835	479,618	428,833	931,286
1956	901	73,973	281,398	31,732	598,119	549,362	1,179,213
1959	857	68,602	302,918	26,059	642,469	645,703	1,314,231
1960	902	65,843	300,246	26,717	623,853	604,422	1,254,992
B — Niagara							
Haldimand							
1946	56	1,443	1,966	314	7,253	5,028	12,595
1951	60	1,667	3,619	573	11,732	7,737	20,042
1956	57	1,901	5,346	739	17,858	11,677	30,274
1959	51	1,915	5,588	743	15,384	14,487	30,614
1960	54	1,753	5,362	777	14,457	10,217	25,451
Lincoln							
1946	184	12,229	20,916	1,653	35,265	36,094	73,012
1951	212	15,825	47,152	2,969	88,895	87,381	179,245
1956	212	16,070	59,752	4,513	102,153	103,685	210,351
1959	213	14,464	63,433	4,801	105,306	108,743	218,850
1960	232	13,532	61,483	4,667	105,255	107,762	217,684
Welland							
1946	259	21,113	40,106	12,388	130,083	109,540	252,011
1951	280	25,040	80,390	19,124	300,499	189,960	509,583
1956	305	26,012	106,704	23,686	379,916	207,158	610,760
1959	287	23,303	106,965	23,070	381,603	207,629	612,302
1960	297	23,209	111,091	23,606	391,581	213,246	628,433
Sub-total							
1946	499	34,785	62,988	14,355	172,601	150,662	337,618
1951	552	42,532	131,161	22,666	401,126	285,078	708,870
1956	574	43,983	171,802	28,938	499,927	322,520	851,385
1959	551	39,682	175,986	28,614	502,293	330,859	861,766
1960	583	38,494	177,936	29,050	511,293	331,225	871,568
Total, Niagara Region							
1946	1,242	96,426	170,445	26,284	363,941	342,278	732,503
1951	1,398	119,268	352,868	45,501	880,744	713,911	1,640,156
1956	1,475	117,956	453,200	60,670	1,098,046	871,882	2,030,598
1959	1,408	108,284	478,904	54,673	1,144,762	976,562	2,175,997
1960	1,485	104,337	478,182	55,767	1,135,146	935,647	2,126,560

¹Excludes adjustment for inventory change.²Figures for 1946 and 1951 are "Gross Value of Products" instead of "Selling Value of Factory Shipments".

Note: County figures for 1959 have been reclassified on the basis of the Standard Industrial Classification as revised in 1960. Therefore figures for 1959 and 1960 may not be strictly comparable with earlier years.

**PRINCIPAL STATISTICS OF MANUFACTURING INDUSTRIES,
SELECTED CENTRES¹, NIAGARA REGION,
SELECTED YEARS 1946 TO 1960**

	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)	Cost at Plant of Materials Used (\$000's)	Net Value of Products ² (\$000's)	Selling Value of Factory Shipments ³ (\$000's)		
			(\$000's)	(\$000's)	(\$000's)	(\$000's)			
A — Burlington									
Brant									
Brantford	1946	129	12,335	21,557	1,124	31,161	35,632		
	1951	157	13,629	37,794	1,816	71,064	68,626		
	1956	166	10,819	35,679	2,032	71,631	67,347		
	1958	173	10,781	38,734	2,254	72,499	69,604		
	1959	169	11,166	43,196	2,327	86,801	76,985		
	1960	171	10,118	40,090	2,247	78,583	77,932		
Paris	1946	22	1,246	1,628	97	3,331	3,126		
	1951	26	1,506	3,505	138	6,862	6,340		
	1956	24	1,337	3,911	176	8,610	4,669		
	1958	30	1,079	3,219	166	5,833	5,600		
	1959	30	1,157	3,510	167	6,635	6,083		
	1960	28	1,140	3,640	160	6,931	5,387		
Halton ⁴									
Burlington	1946	9	302	464	58	2,044	1,003		
	1951	16	754	1,907	116	6,035	3,681		
	1956	24	765	2,137	123	5,127	3,868		
	1958	34	1,189	4,194	251	8,865	9,028		
	1959	50	1,738	6,226	530	17,087	12,175		
	1960	48	1,898	7,415	583	20,338	15,441		
Wentworth									
Dundas	1946	28	1,408	2,377	105	1,907	3,821		
	1951	34	1,762	4,142	243	4,002	5,767		
	1956	35	1,386	4,719	391	5,918	6,920		
	1958	37	1,119	4,015	197	6,228	5,655		
	1959	37	1,080	3,925	185	5,246	5,234		
	1960	38	1,202	4,626	206	5,623	6,686		
Hamilton	1946	501	45,951	80,959	10,435	150,978	146,620		
	1951	560	58,841	174,297	20,371	391,413	343,763		
	1956	585	58,742	232,166	28,649	498,411	460,669		
	1958	548	50,219	219,874	24,758	452,299	466,247		
	1959	525	52,820	244,630	31,286	547,666	535,185		
	1960	534	50,850	243,415	22,901	510,853	497,444		
Stoney Creek	1946	6	106	105	7	449	224		
	1951	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.		
	1956	8	54	146	12	171	200		
	1958	12	251	643	89	2,162	876		
	1959	13	340	748	76	2,580	1,829		
	1960	16	412	1,042	105	3,010	1,366		
B — Niagara									
Haldimand									
Dunnville	1946	20	821	1,134	69	3,214	1,972		
	1951	20	1,089	2,173	106	6,023	2,718		
	1956	20	1,252	3,173	173	10,683	5,744		
	1958	17	1,247	3,336	185	9,851	6,689		
	1959	16	1,273	3,067	184	8,115	7,591		
	1960	15	1,136	2,951	189	6,900	4,769		
Lincoln									
Beamsville	1946	12	121	146	8	420	253		
	1951	12	146	244	14	653	452		
	1956	8	128	278	29	624	513		
	1958	8	136	382	37	625	676		
	1959	6	121	353	41	641	574		
	1960	10	145	425	53	830	583		

MANUFACTURING

 PRINCIPAL STATISTICS OF MANUFACTURING INDUSTRIES,
 SELECTED CENTRES¹, NIAGARA REGION,
 SELECTED YEARS 1946 TO 1960 (Cont'd)

	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)	Cost at Plant of Materials Used (\$000's)	Net Value of Products ² (\$000's)	Selling Value of Factory Shipments ³ (\$000's)
Lincoln (Cont'd)							
Grimsby	1946	19	561	726	40	1,256	1,297
	1951	14	471	961	64	1,754	2,394
	1956	18	490	1,150	90	2,372	2,110
	1958	19	519	1,258	77	2,954	2,199
	1959	20	522	1,365	89	2,981	2,510
	1960	18	283	957	48	1,795	1,594
Merritton	1946	15	1,739	3,215	593	7,665	5,339
	1951	17	2,058	7,075	1,011	15,378	13,164
	1956	18	2,312	9,146	1,440	15,370	18,047
	1958	18	1,688	7,385	1,400	16,422	13,025
	1959	17	1,814	8,427	1,566	18,048	15,342
	1960	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
St. Catharines	1946	98	9,038	15,829	935	22,544	26,104
	1951	110	11,697	35,717	1,679	64,119	65,380
	1956	100	5,974	22,347	1,001	33,202	33,201
	1958	102	6,321	26,533	1,342	33,129	40,083
	1959	105	6,251	26,811	1,341	33,533	40,445
	1960	136	7,429	33,406	2,599	49,065	54,971
Welland							
Fort Erie	1946	18	825	1,602	56	1,737	2,921
	1951	28	952	2,487	67	4,795	6,356
	1956	27	831	3,105	101	7,479	5,895
	1958	30	855	3,495	146	9,639	8,430
	1959	26	892	3,431	151	10,674	7,954
	1960	28	897	3,686	173	8,526	11,007
Niagara Falls	1946	68	6,384	11,929	4,449	21,572	30,185
	1951	78	6,830	20,616	5,836	39,715	48,147
	1956	79	5,040	18,638	4,555	33,603	37,834
	1958	79	4,444	18,096	4,532	30,072	38,831
	1959	78	4,303	17,960	4,921	28,939	37,435
	1960	75	3,737	16,207	3,910	29,401	29,543
Thorold	1946	23	2,078	4,855	2,271	11,250	9,858
	1951	24	2,330	9,043	3,132	20,419	19,661
	1956	23	1,594	6,231	1,860	12,364	10,741
	1958	24	1,527	6,574	1,775	12,788	12,080
	1959	21	1,575	6,996	1,975	14,110	12,847
	1960	18	1,464	6,679	2,056	12,849	12,151
Welland	1946	52	7,199	13,427	2,896	22,174	27,105
	1951	54	4,381	13,325	1,459	44,181	23,141
	1956	55	3,361	12,030	908	17,933	20,589
	1958	52	2,820	10,142	826	14,476	17,026
	1959	47	2,842	10,786	894	16,197	18,764
	1960	51	3,958	17,236	1,886	48,996	34,664

n.a. not available.

¹Centres with selling value of factory shipments of \$1,000,000 or over and with three or more establishments in 1959.²Excludes adjustment for inventory change.³Figures for 1946 and 1951 are "Gross Value of Products" instead of "Selling Value of Factory Shipments".⁴Of Halton County, only the Town of Burlington is included in the Niagara Region.

- Note: 1. Statistics for cities and towns with three or more establishments cannot be published when one establishment has 75% or two establishments 90% of the total production.
 2. Figures for 1960 have been compiled on the basis of the Standard Industrial Classification as revised in 1960. Therefore figures for 1960 may not be strictly comparable with earlier years.

**PRINCIPAL STATISTICS OF MANUFACTURING INDUSTRIES,
URBAN AND RURAL DISTRIBUTION,
NIAGARA REGION, 1960**

	Establish- ments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)	Cost at Plant of Materials Used (\$000's)	Net Value of Products ¹ (\$000's)	Selling Value of Factory Shipments (\$000's)
A — Burlington							
Brant							
Brantford	171	10,118	40,090	2,247	78,583	77,932	158,762
Paris	28	1,140	3,640	160	6,931	5,387	12,478
Rural	42	658	2,287	214	5,921	4,778	10,913
Halton ²							
Burlington	48	1,898	7,415	583	20,338	15,441	36,362
Wentworth							
Hamilton	534	50,850	243,415	22,901	510,853	497,444	1,031,198
Dundas	38	1,202	4,626	206	5,623	6,686	12,515
Stoney Creek	16	412	1,042	105	3,010	1,366	4,481
Waterdown	6	57	192	15	364	323	702
Other Urban and Rural	67	1,406	4,954	870	12,568	10,505	23,943
B — Niagara							
Haldimand							
Cayuga	3	11	28	4	73	50	127
Dunnville	15	1,136	2,951	189	6,900	4,769	11,858
Hagersville	7	14	33	5	100	56	161
Other Urban	11	314	1,332	310	3,006	2,153	5,469
Rural	18	278	1,018	269	4,378	3,189	7,836
Lincoln							
St. Catharines	136	7,429	33,406	2,599	49,065	54,971	106,635
Grimsby	18	283	957	48	1,795	1,594	3,437
Niagara	9	73	224	16	343	398	757
Beamsville	10	145	425	53	830	583	1,466
Rural	59	5,602	26,471	1,950	53,222	50,217	105,389
Welland							
Niagara Falls	75	3,737	16,207	3,910	29,401	29,543	62,854
Welland	51	3,958	17,236	1,886	48,996	34,664	85,546
Fort Erie	28	897	3,686	173	8,526	11,007	19,706
Thorold	18	1,464	6,679	2,056	12,849	12,151	27,056
Other Urban and Rural	125	13,153	67,284	15,581	291,810	125,881	433,272

¹Excludes adjustment for inventory change.

²Of Halton County, only the Town of Burlington is included in Niagara Region.

MANUFACTURING

PRINCIPAL STATISTICS OF MANUFACTURING BY INDUSTRIAL GROUPS,
NIAGARA REGION, 1960

	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)	Cost at Plant of Materials Used (\$000's)	Net Value of Products ¹ (\$000's)	Selling Value of Factory Shipments (\$000's)
Foods and Beverages	350	10,622	35,808	3,494	148,123	74,222	225,839
Leather	15	629	1,707	40	2,644	2,304	4,988
Textiles	50	4,854	15,632	957	29,533	27,514	58,004
Knitting Mills	14	1,958	5,013	209	8,554	8,321	17,084
Clothing	24	1,128	2,858	39	3,877	3,957	7,873
Wood	72	734	2,367	148	4,025	3,646	7,819
Furniture and Fixtures	78	565	2,028	77	2,296	3,055	5,428
Paper	36	5,821	27,540	5,107	66,243	50,141	121,491
Printing, Publishing and Allied Industries	150	2,544	11,155	239	9,163	20,085	29,487
Metal Fabricating	242	12,123	58,468	2,781	92,790	97,720	193,291
Machinery	48	8,688	41,265	1,830	66,398	73,470	141,698
Transportation Equipment	29	8,392	42,528	2,815	78,132	74,997	155,944
Electrical Products	39	7,329	34,809	1,160	41,216	75,062	117,438
Non-Metallic Mineral Products	91	5,371	23,993	6,826	32,976	44,367	84,169
Chemical and Chemical Products	73	4,063	20,933	7,150	62,618	68,399	138,167
Miscellaneous Industries	119	2,851	10,474	350	13,593	19,575	33,518
Other Major Groups	55	26,665	141,604	22,544	457,089	304,690	784,323
Total, Niagara Region	1,485	104,337	478,182	55,767	1,119,269	951,524	2,126,560

¹Excludes adjustment for inventory change.

Note: Due to rounding, figures may not add to totals.

PRINCIPAL STATISTICS OF MANUFACTURING BY INDUSTRIAL GROUPS,
COUNTIES, NIAGARA REGION, 1960

	Establish- ments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)	Cost at Plant of Materials Used (\$000's)	Net Value of Products ¹ (\$000's)	Selling Value of Factory Shipments (\$000's)
A — Burlington							
Brant							
Foods and Beverages	44	1,060	3,395	351	11,735	7,345	19,431
Textiles	13	1,514	5,070	255	10,345	8,378	18,978
Knitting Mills	4	795	2,081	103	2,788	2,876	5,767
Wood	12	94	357	15	1,189	583	1,787
Furniture and Fixtures	16	97	337	19	522	693	1,234
Paper	8	611	2,391	260	4,402	5,212	9,874
Printing, Publishing and Allied Industries	25	480	2,044	42	2,102	3,216	5,360
Metal Fabricating	34	651	2,685	140	4,268	4,890	9,298
Electrical Products	5	484	1,810	50	4,299	3,678	8,027
Non-Metallic Mineral Products	12	308	1,279	141	2,130	2,471	4,742
Chemicals and Allied Products	12	543	2,570	192	6,199	7,682	14,073
Miscellaneous Manufacturing	24	832	2,734	91	3,346	4,971	8,408
Other Major Groups	32	4,447	19,263	961	38,111	36,100	75,172

PRINCIPAL STATISTICS OF MANUFACTURING BY INDUSTRIAL GROUPS,
COUNTIES, NIAGARA REGION, 1960 (Cont'd)

	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)	Cost at Plant of Materials Used (\$000's)	Net Value of Products ¹ (\$000's)	Selling Value of Factory Shipments (\$000's)
A — Burlington (Cont'd)							
Wentworth							
Foods and Beverages	142	5,733	19,813	1,598	73,669	37,581	112,848
Textiles	21	1,623	5,305	326	9,144	9,746	19,216
Knitting Mills	5	453	1,123	29	1,863	2,291	4,183
Clothing	15	708	1,959	27	2,320	2,599	4,946
Wood	19	303	1,007	76	1,393	1,715	3,184
Furniture and Fixtures	37	295	1,100	34	918	1,432	2,384
Printing, Publishing and							
Allied Industries	77	1,416	6,597	133	5,596	12,359	18,088
Metal Fabricating	115	6,948	34,594	1,572	60,559	54,591	116,722
Transportation Equipment	7	1,480	7,266	547	18,201	11,945	30,693
Electrical Products	24	5,283	25,898	859	28,083	60,564	89,506
Non-Metallic Mineral Products	37	2,506	10,321	1,892	10,218	18,683	30,793
Chemicals and Allied Products	33	1,614	8,395	1,872	29,517	37,648	69,037
Miscellaneous Manufacturing	59	1,016	3,663	115	4,549	7,270	11,934
Other Major Groups	70	24,549	127,187	15,015	286,389	257,902	559,306
B — Niagara							
Haldimand							
Foods and Beverages	27	226	608	142	3,615	879	4,636
Wood	4	6	12	1	48	33	82
Printing, Publishing and							
Allied Industries	6	27	80	3	33	133	169
Other Major Groups	17	1,494	4,662	631	10,761	9,173	20,565
Lincoln							
Foods and Beverages	63	1,488	4,038	452	15,594	6,966	23,012
Textiles	6	183	622	71	1,515	1,110	2,696
Knitting Mills	4	276	789	26	1,671	1,463	3,160
Wood	19	245	718	39	1,002	992	2,033
Furniture and Fixtures	14	86	328	10	336	439	785
Printing, Publishing and							
Allied Industries	19	257	1,053	26	585	1,874	2,485
Metal Fabricating	45	2,479	11,909	469	14,026	20,673	35,168
Non-Metallic Mineral Products	13	259	1,049	299	2,167	2,002	4,468
Chemicals and Allied Products	7	61	282	23	657	1,220	1,900
Other Major Groups	42	8,198	40,695	3,253	67,703	71,022	141,978
Welland							
Foods and Beverages	74	2,115	7,955	951	43,510	21,452	65,913
Leather	6	411	1,122	25	1,717	1,496	3,238
Textiles	7	1,032	3,317	229	5,912	6,048	12,189
Wood	18	86	273	17	394	321	732
Paper	8	2,745	14,288	3,389	32,152	24,979	60,520
Printing, Publishing and							
Allied Industries	23	364	1,381	35	848	2,503	3,386
Metal Fabricating	45	1,959	8,927	578	12,834	17,019	30,431
Electrical Products	6	639	2,683	105	4,667	5,409	10,181
Non-Metallic Mineral Products	25	1,881	9,557	4,052	14,644	16,641	35,337
Miscellaneous Manufacturing	24	535	2,205	109	3,909	4,593	8,611
Other Major Groups	61	11,442	59,385	14,115	270,993	112,787	397,895

¹Excludes adjustment for inventory change.

MANUFACTURING

PRINCIPAL STATISTICS OF MANUFACTURING BY INDUSTRY,
NIAGARA REGION, 1960

	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)	Cost at Plant of Materials Used (\$000's)	Net Value of Products ¹ (\$000's)	Selling Value of Factory Shipments (\$000's)
Abrasives	9	1,828	9,386	3,751	13,782	16,904	34,437
Bakeries	119	1,937	5,845	486	6,234	8,456	15,176
Boxes, Folding and Set Up	13	509	1,955	58	5,075	3,519	8,652
Butter and Cheese	9	129	425	115	3,310	628	4,053
Canvas Products	9	90	291	11	223	413	647
Chemical, Miscellaneous	28	731	3,479	402	11,704	12,696	24,802
Chemicals, Industrial	11	1,957	10,447	6,200	22,688	24,211	53,099
Clay Products, Domestic	9	317	1,184	495	40	2,428	2,963
Clothing, Children's Factory	4	57	116	1	190	201	392
Clothing, Men's Factory	7	875	2,319	30	3,255	3,168	6,453
Concrete Products	33	601	2,425	332	3,005	4,656	7,993
Concrete Ready Mix	11	192	820	170	2,899	1,738	4,807
Confectionery	11	632	1,691	78	3,628	4,693	8,399
Copper and Alloy, Rolling,							
Casting and Extruding	8	182	717	56	1,084	1,082	2,222
Cordage and Twine	4	568	2,224	128	6,800	4,641	11,569
Cotton Yarn and Cloth	6	2,074	6,367	422	10,169	10,697	21,288
Dental Laboratories	18	60	267	4	93	332	429
Electric Appliances	7	639	2,730	76	5,061	5,524	10,661
Electric, Industrial	13	4,155	20,836	639	17,060	43,264	60,963
Electrical Products	6	90	288	18	346	411	775
Embroidering, Pleating, etc.	5	11	27	1	5	40	46
Engraving and Duplicating Plates	9	193	1,129	21	352	1,547	1,920
Feeds	55	232	682	188	5,730	1,449	7,367
Foods, Miscellaneous	10	111	336	23	960	738	1,721
Fruit and Vegetable Preparations	36	3,063	8,180	568	28,762	15,738	45,068
Fur Goods	4	20	74	3	98	127	228
Furniture, Household	66	311	999	43	1,381	1,734	3,158
Glass Products	4	16	39	1	37	52	90
Hardware, Tools, Cutlery	35	1,130	5,051	243	4,341	8,854	13,438
Hosiery Mills	4	591	1,850	49	2,599	3,803	6,451
Ice, Artificial	7	23	79	24	14	114	152
Jewellery and Silver	8	420	1,787	79	2,626	3,009	5,714
Knitting Mills, Other	10	1,367	3,163	160	5,955	4,518	10,633
Leather Products, Miscellaneous	4	103	312	6	512	434	952
Lithographing	11	475	2,069	40	2,986	3,331	6,357
Machine Shops	52	475	1,921	83	1,501	3,289	4,873
Machinery, Miscellaneous	32	2,783	13,451	490	15,519	24,591	40,600
Metal Fabricating, Miscellaneous	29	1,035	4,887	450	8,247	10,171	18,868
Metal Fabricating, Structural	7	1,430	7,153	229	10,953	10,969	22,151
Metal Ornament, Architectural	32	474	1,807	92	4,006	3,865	7,963
Metal, Roll, Cast, Extruded	9	269	1,245	213	4,741	2,881	7,835
Metal Stamp and Press	43	2,569	13,248	549	13,114	19,686	33,349
Models and Patterns	8	22	100	2	41	153	196

**PRINCIPAL STATISTICS OF MANUFACTURING BY INDUSTRY,
NIAGARA REGION, 1960 (Cont'd)**

	<u>Establishments</u> No.	<u>Employees</u> No.	<u>Salaries and Wages</u> (\$000's)	<u>Cost of Fuel and Electricity</u> (\$000's)	<u>Cost at Plant of Materials Used</u> (\$000's)	<u>Net Value of Products¹</u> (\$000's)	<u>Selling Value of Factory Shipments</u> (\$000's)
Ophthalmic Goods	3	22	78	1	74	127	202
Other Miscellaneous Industries	7	372	1,339	42	2,686	2,783	5,511
Paints and Varnishes	11	238	1,103	47	3,268	1,997	5,312
Paper Converters, Miscellaneous	10	1,107	4,357	236	13,987	8,204	22,427
Pasteurizing Plants	39	1,535	6,399	565	14,814	8,946	24,325
Plastic Fabricators	8	201	581	24	1,003	981	2,008
Poultry Processors	6	95	275	29	2,295	532	2,856
Printing and Bookbinding	99	761	2,916	75	2,803	4,621	7,499
Printing and Publishing	26	1,093	4,934	102	2,939	10,257	13,298
Pulp and Paper	9	3,555	18,373	4,624	38,419	32,724	75,767
Refrigeration and Air Conditioning ..	7	742	3,120	133	4,787	6,332	11,252
Sash, Door, Planing Mills	37	309	1,086	75	2,454	1,894	4,423
Sausage, Sausage Casings	7	36	113	10	786	228	1,024
Sawmills	15	25	56	4	183	155	342 ²
Shoe Factories	5	477	1,256	28	1,967	1,668	3,663
Signs and Displays	20	179	657	28	693	1,298	2,019
Slaughtering and Meat Packing	17	1,184	4,749	422	38,177	10,762	49,361
Soft Drinks	15	293	1,134	144	1,725	3,445	5,314
Stamps and Stencils,							
Rubber and Metal	6	96	418	9	168	549	726
Stone Products	6	98	382	33	494	573	1,100
Textiles, Miscellaneous	6	195	542	16	1,246	1,260	2,522
Wineries	7	314	1,416	120	5,916	3,725	9,761
Wire and Wire Products	28	3,528	17,294	918	43,209	27,441	71,568
Wood, Miscellaneous	4	28	88	17	117	144	278
Wooden Boxes	12	251	731	39	770	849	1,658
Other Industries	260	52,857	261,383	30,996	703,163	549,276	1,283,435
Total, Niagara Region	1,485	104,337	478,182	55,767	1,119,269	951,524	2,126,560

¹Excludes adjustment for inventory change.²Reported on a production basis.

Note: Due to rounding, figures may not add to totals.

MANUFACTURING

PRINCIPAL STATISTICS OF MANUFACTURING BY INDUSTRY,
COUNTIES, NIAGARA REGION, 1960

	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)	Cost at Plant of Materials Used (\$000's)	Net Value of Products ¹ (\$000's)	Selling Value of Factory Shipments (\$000's)
A — Burlington							
Brant							
Bakeries	11	131	349	27	357	522	906
Concrete Products	5	42	146	30	154	173	357
Dental Laboratories	4	5	18	1	6	22	29
Embroidering, Pleating, etc.	3	5	14	—	3	17	20
Feeds	7	45	154	40	1,122	322	1,484
Furniture, Household	14	79	290	16	469	634	1,119
Hardware, Tools, Cutlery	4	38	156	8	85	200	293
Machinery, Miscellaneous	9	573	2,664	92	4,431	5,833	10,356
Machine Shops	9	88	328	17	138	551	706
Metal Fabricating, Miscellaneous	4	208	922	37	1,659	1,874	3,570
Metal Ornament, Architectural	4	92	323	16	677	729	1,422
Metal Stamp and Press, etc.	8	66	251	20	331	471	822
Models and Patterns	3	7	31	1	12	42	55
Pasteurizing Plants	7	155	596	60	1,545	885	2,490
Plastic Fabricators	3	84	235	16	343	403	762
Printing and Bookbinding	17	175	597	13	630	918	1,561
Refrigeration and Air Conditioning	3	654	2,749	110	4,386	5,973	10,469
Sash, Door, Planing Mills	4	72	291	12	1,097	475	1,584
Sawmills	5	2	3	—	16	7	23
Soft Drinks	4	53	181	34	289	581	904
Other Industries	113	9,341	35,721	2,071	73,684	67,469	143,224
Wentworth							
Bakeries	57	1,435	4,537	365	4,486	6,131	10,982
Boiler and Plate Works	3	69	316	11	345	736	1,092
Boxes, Folded and Set Up	9	431	1,799	54	4,856	3,277	8,187
Canvas Products	5	75	247	9	189	349	547
Chemicals, Industrial	4	389	1,918	1,306	3,788	6,219	11,313
Chemical, Miscellaneous	15	299	1,363	210	4,780	3,531	8,521
Confectionery	8	393	979	44	1,917	3,286	5,247
Clay Products, Domestic	6	246	897	321	35	1,767	2,123
Communications Equipment	5	1,293	5,828	39	6,238	10,952	17,229
Concrete Products	11	441	1,938	268	2,534	3,906	6,708
Cotton Yarn and Cloth	3	831	2,710	171	4,224	4,741	9,136
Dental Laboratories	8	40	175	2	61	211	274
Electric Industrial Equipment	8	2,854	14,780	435	10,831	35,355	46,621
Electrical Products, Miscellaneous	4	38	108	9	188	187	384
Engraving and Duplicating Plates	8	180	1,068	19	320	1,458	1,797
Feeds	13	45	130	26	990	218	1,234
Fur Goods	4	20	74	3	98	127	228
Furniture, Household	30	106	312	9	256	441	706
Foods, Miscellaneous	6	62	221	11	622	488	1,121
Fruit and Vegetable Preparations	13	1,453	4,224	203	11,570	6,853	18,626
Hardware, Tools, Cutlery	20	588	2,568	107	2,300	4,771	7,178
Hats and Caps	3	26	48	1	44	61	106
Jewellery and Silverware	5	74	244	3	263	420	686
Machine Shops	19	188	884	35	952	1,639	2,626
Machinery, Miscellaneous	16	1,638	7,812	294	7,744	13,909	21,947
Metal Fabricating, Miscellaneous	9	244	1,140	65	1,952	2,512	4,529
Metal Ornament, Architectural	14	199	799	27	2,098	2,164	4,289
Metal, Roll, Cast, Extruded	6	226	1,069	205	3,910	2,204	6,319
Metal Stamp and Press, etc.	28	2,319	12,262	489	12,177	17,846	30,512
Models and Patterns	4	13	61	1	23	101	125
Pasteurizing Plants	9	759	3,458	264	7,673	4,676	12,613
Printing and Bookbinding	55	411	1,749	44	1,535	2,715	4,294
Sash, Door, Planing Mills	9	120	430	40	607	755	1,402
Sausage, Sausage Casing	5	28	85	9	699	190	898
Signs and Displays	14	135	499	20	403	1,034	1,457
Slaughtering and Meat Packing	9	1,026	4,223	374	34,378	9,398	44,150

**PRINCIPAL STATISTICS OF MANUFACTURING BY INDUSTRY,
COUNTIES, NIAGARA REGION, 1960 (Cont'd)**

	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)	Cost at Plant of Materials Used (\$000's)	Net Value of Products ¹ (\$000's)	Selling Value of Factory Shipments (\$000's)
Wentworth (Cont'd)							
Soft Drinks	6	146	597	67	935	1,929	2,931
Sporting Goods	4	42	113	2	288	276	566
Stamps, Stencils, Rubber, Metal	5	93	408	9	166	539	714
Stone Products	3	80	309	29	391	412	832
Wooden Boxes	5	59	178	8	278	270	556
Wire and Wire Products	18	2,692	13,503	768	36,623	21,700	59,091
Other Industries	175	32,121	158,165	17,723	358,652	336,566	712,941
B — Niagara							
Haldimand							
Bakeries	5	17	44	4	61	75	140
Feeds	12	35	75	17	422	111	550
Pasteurizing Plants	3	21	57	8	217	107	332
Printing and Publishing	5	26	80	3	32	132	167
Sawmills	3	3	4	1	20	18	39
Other Industries	26	1,651	5,102	743	13,705	9,775	24,223
Lincoln							
Bakeries	19	126	237	26	371	481	878
Chemical, Miscellaneous	4	29	130	16	228	445	689
Concrete Products	5	53	151	21	139	243	403
Dental Laboratories	3	6	29	1	13	44	58
Feeds	13	63	172	62	810	291	1,163
Fruit and Vegetable Preparations	11	872	2,057	191	8,554	3,388	12,133
Furniture, Household	12	44	152	4	160	205	369
Hardware, Tools, Cutlery	7	471	3,212	113	1,850	3,594	5,557
Machine Shops	12	105	411	19	229	694	942
Metal Ornament, Architectural	6	68	264	10	518	285	813
Pasteurizing Plants	8	238	923	97	1,978	1,195	3,270
Printing and Bookbinding	12	67	206	9	205	348	562
Printing and Publishing	6	189	848	18	380	1,523	1,921
Sash, Door, Planing Mills	11	82	270	17	593	518	1,128
Sawmills	4	6	7	1	36	23	60
Slaughtering and Meat Packing	5	54	168	23	1,885	467	2,375
Wooden Boxes	4	157	442	21	372	452	845
Other Industries	90	10,902	52,806	4,019	86,932	93,567	184,518
Welland							
Bakeries	27	228	678	64	960	1,246	2,270
Concrete Products	11	64	186	13	174	330	517
Dental Laboratories	3	9	46	—	13	54	67
Fruit and Vegetable Preparations	8	440	1,064	90	5,627	3,170	8,887
Furniture, Household	9	80	241	14	493	444	951
Hardware, Tools, Cutlery	4	33	115	15	105	291	411
Ice, Artificial	3	10	33	11	5	56	72
Lithographing	3	24	80	2	60	142	204
Machine Shops	11	87	273	10	180	364	554
Machinery, Miscellaneous	7	572	2,976	103	3,344	4,850	8,297
Metal Fabricating, Miscellaneous	10	320	1,506	259	2,767	3,075	6,101
Metal Ornament, Architectural	8	115	421	40	713	686	1,439
Metal Stamp and Press, etc.	3	92	373	21	213	712	946
Pasteurizing Plants	12	362	1,365	136	3,401	2,083	5,620
Printing and Bookbinding	14	107	364	9	432	638	1,079
Printing and Publishing	6	233	937	23	355	1,724	2,102
Sash, Door, Planing Mills	13	35	96	6	157	146	309
Shoe Factories	4	331	863	21	1,296	1,134	2,451
Signs and Displays	3	5	15	1	6	26	33
Soft Drinks	4	87	340	40	489	909	1,438
Other Industries	134	19,975	99,118	22,727	370,792	191,164	584,683

¹Excludes adjustment for inventory change.

TRANSPORTATION

CARGO HANDLED AT SELECTED PORTS,
NIAGARA REGION, 1961

	In Coastwise Shipping			In Foreign Shipping			Total Cargo Handled
	Loaded	Unloaded	Total	Loaded	Unloaded	Total	
	(Cargo Tons)						
Hamilton	387,577	1,191,040	1,578,617	107,928	6,101,350	6,209,278	7,787,895
Iron Ore and Concentrates	—	662,414	662,414	384	2,903,519	2,903,903	3,566,317
Slags, Drosses, etc.	31,979	—	31,979	190	—	190	32,169
Sand and Gravel	21,377	78,759	100,136	—	11,372	11,372	111,508
Phosphate Rock	—	53,693	53,693	—	12,000	12,000	65,693
Sulphur	—	31,423	31,423	—	6,732	6,732	38,155
Fertilizers, etc.	—	10,359	10,359	—	3,400	3,400	13,759
Fuel Oil	—	292,454	292,454	9	59,976	59,985	352,439
Tar, Pitch and Creosote	17,950	16,500	34,450	10,260	—	10,260	44,710
Molasses, Crude	—	—	—	—	14,179	14,179	14,179
Soyabean Oil, Cake, etc.	—	—	—	14,024	—	14,024	14,024
Soyabeans	—	—	—	396	59,443	59,839	59,839
Iron and Steel Scrap	—	—	—	8,300	76,515	84,815	84,815
Coal, Bituminous	—	5,217	5,217	—	2,863,254	2,863,254	2,868,471
Steel Plate and Sheet	3,323	584	3,907	37,760	4,319	42,079	45,986
Cement	—	15	15	—	13,104	13,104	13,119
All Other	312,948	39,622	352,570	36,605	73,537	110,142	462,712
Port Colborne	673,230	999,908	1,673,138	979,581	311,910	1,291,491	2,964,629
Wheat and Wheat Flour	642,922	776,808	1,419,730	22,293	5,322	27,615	1,447,345
Other Grain (Corn, Oats, Flaxseed) ..	2,178	31,353	33,531	—	3,401	3,401	36,932
Iron Ore and Concentrates	—	81,600	81,600	—	168,561	168,561	250,161
Dolomite	21,984	—	21,984	869,494	—	869,494	891,478
Pig Iron	4,103	—	4,103	71,048	—	71,048	75,151
All Other	2,043	110,147	112,190	16,746	134,626	151,372	263,562
Thorold	20,871	291,553	312,424	199,867	198,819	398,686	711,110
Pulpwood and Woodpulp	—	256,283	256,283	55	—	55	256,338
Newsprint	—	—	—	199,812	4	199,816	199,816
Coal, Bituminous	—	8,005	8,005	—	119,289	119,289	127,294
Sand and Gravel	—	18,998	18,998	—	4,300	4,300	23,298
Fuel Oil	—	6,200	6,200	—	2,700	2,700	8,900
All Other	20,871	2,067	22,938	—	72,526	72,526	95,464
St. Catharines	1,562	281,438	283,000	13,760	111,388	125,148	408,148
Wheat	—	22,828	22,828	—	—	—	22,828
Sand and Gravel	—	114,011	114,011	—	30,055	30,055	144,066
Fuel Oil	—	137,005	137,005	—	13,674	13,674	150,679
Coal, Bituminous	—	—	—	—	59,769	59,769	59,769
All Other	1,562	7,594	9,156	13,760	7,890	21,650	30,806
Niagara Bar	362,136	—	362,136	—	—	—	362,136
Sand and Gravel	362,136	—	362,136	—	—	—	362,136
Welland	3,536	89,810	93,346	4,794	24,743	29,537	122,883
Iron Ore and Concentrates	—	17,528	17,528	—	—	—	17,528
Sand and Gravel	—	12,289	12,289	—	—	—	12,289
Limestone	—	2,500	2,500	—	—	—	2,500
Quartzite	—	5,000	5,000	—	—	—	5,000
Fuel Oil	—	52,493	52,493	—	—	—	52,493
Coke	1,052	—	1,052	3,920	—	3,920	4,972
Steel Plate and Sheet	1,500	—	1,500	—	—	—	1,500
Coal, Bituminous	—	—	—	—	24,743	24,743	24,743
All Other	984	—	984	874	—	874	1,858
Dunville	—	—	—	—	30,867	30,867	30,867
Coal, Bituminous	—	—	—	—	30,867	30,867	30,867
Niagara Falls	13,846	57,394	71,240	2,050	—	2,050	73,290
Sand and Gravel	—	57,394	57,394	2,050	—	2,050	59,444
Limestone	13,846	—	13,846	—	—	—	13,846
Port Maitland	—	3,000	3,000	—	38,679	38,679	41,679
Coal, Bituminous	—	—	—	—	38,679	38,679	38,679
Fertilizers, etc.	—	3,000	3,000	—	—	—	3,000

**SUMMARY OF TRAFFIC
ON THE WELLAND CANAL, 1952 TO 1962**

	Vessels In Transit				Cargo Tons			
	Upbound No.	Downbound No.	Total No.	% of All Canadian Canals %	Upbound No.	Downbound No.	Total No.	% of All Canadian Canals %
1952	4,707	4,451	9,158	34.8	2,288,540	15,622,216	17,910,756	57.1
1953	4,788	4,584	9,372	34.0	2,582,462	16,959,688	19,542,150	58.6
1954	4,302	4,177	8,479	33.5	2,395,791	15,118,467	17,514,258	58.2
1955	4,697	4,637	9,334	33.1	4,259,992	16,633,580	20,893,572	59.9
1956	4,716	4,644	9,360	28.5	5,069,312	17,996,949	23,066,261	57.6
1957	4,602	4,552	9,154	31.1	5,140,672	17,231,866	22,372,538	60.1
1958	4,405	4,331	8,736	31.8	5,005,587	16,268,607	21,274,194	60.6
1959	4,346	4,303	8,649	28.3	9,596,566	17,909,458	27,506,024	53.9
1960	4,136	4,033	8,169	27.6	8,399,723	20,881,014	29,280,737	55.3
1961	4,104	4,101	8,205	31.6	7,644,652	23,759,718	31,404,370	54.9
1962	4,037	3,994	8,031	36.0	10,939,759	24,584,762	35,524,521	55.8

**PRINCIPAL COMMODITIES CARRIED ON THE WELLAND CANAL,
1958 AND 1962**

	1962			1958	% Change 1962/1958
	Upbound	Downbound	Total Cargo (Cargo Tons)		
Total Freight	10,939,759	24,584,762	35,524,521	21,274,194	67.0
Iron Ore	6,309,108	3,966,438	10,275,546	4,291,484	139.4
Wheat	10,032	5,320,309	5,330,341	3,630,261	46.8
Coal, Bituminous	202,222	4,657,515	4,859,737	4,400,800	10.4
Corn	—	2,496,372	2,496,372	405,471	515.7
Barley	—	1,268,965	1,268,965	1,336,175	— 5.0
Soya Beans	—	1,163,170	1,163,170	399,789	190.9
Stone, Crushed, Broken	996,816	65,373	1,062,189	n.a.	—
Fuel Oil	390,862	498,296	889,158	929,363	— 4.3
Oats	—	709,209	709,209	356,630	98.9
Newsprint Paper	479,613	6,274	485,887	446,129	8.9
Rye	—	399,731	399,731	98,480	305.9
Chemicals and Related Products ¹	158,307	210,218	368,525	166,296	121.6
Flaxseed	—	350,189	350,189	355,961	— 1.6
Fodder and Feed	7,525	301,721	309,246	—	—
Pulpwood	196,267	70,766	267,033	523,424	— 49.0

n.a. not available.

¹Exclusive of synthetic rubber, sodium products.

TRANSPORTATION

**MOTOR VEHICLE REGISTRATIONS,
COUNTIES, NIAGARA REGION, SELECTED YEARS 1951 TO 1961**

		<u>Passenger</u>	<u>Commercial</u> ¹	<u>Dual Purpose</u> ²	<u>Total</u> ³	<u>% Change 1961/1951</u> ⁴
A — Burlington						
Brant	1951	15,522	3,243		18,765	
	1956	20,991	3,961		24,952	
	1960	22,844	4,173	1,094	28,111	
	1961	23,806	4,140	1,184	29,130	48.9
Wentworth	1951	54,949	11,153		66,102	
	1956	84,826	13,904		98,730	
	1960	92,467	13,963	5,412	111,842	
	1961	96,127	14,027	6,319	116,473	66.6
Sub-total	1951	70,471	14,396		84,867	
	1956	105,817	17,865		123,682	
	1960	115,311	18,136	6,506	139,953	
	1961	119,933	18,167	7,503	145,603	62.7
B — Niagara						
Haldimand	1951	6,540	1,755		8,295	
	1956	8,178	2,771		10,949	
	1960	8,674	2,534	349	11,557	
	1961	8,620	2,508	365	11,493	34.2
Lincoln	1951	19,626	5,221		24,847	
	1956	30,626	5,937		36,563	
	1960	35,793	6,571	1,970	44,334	
	1961	36,647	7,247	2,330	46,224	76.7
Welland	1951	27,025	5,832		32,857	
	1956	38,920	8,227		47,147	
	1960	45,277	6,892	2,655	54,824	
	1961	42,949	7,091	2,772	52,812	52.3
Sub-total	1951	53,191	12,808		65,999	
	1956	77,724	16,935		94,659	
	1960	89,744	15,997	4,974	110,715	
	1961	88,216	16,846	5,467	110,529	59.2
Total, Niagara Region	1951	123,662	27,204		150,866	
	1956	183,541	34,800		218,341	
	1960	205,055	34,133	11,480	250,668	
	1961	208,149	35,013	12,970	256,132	61.2

¹Includes trucks, tractors and buses.²Includes station wagons and similar vehicles. From 1951 to 1959 inclusive, not available on a county basis.³Excludes motor cycle and trailer permits and, from 1951 to 1959, dual purpose vehicles.⁴Total permits excluding motor cycle, trailer and dual purpose vehicle permits.

**ROAD AND HIGHWAY MILEAGES,
COUNTIES, NIAGARA REGION, 1961**

		Total Mileage ¹	King's Highways ¹	County Roads	Organized Township Roads	Urban Roads
A — Burlington						
Brant	Mi.	961	82	132	558	189
%		(100.0)	(8.5)	(13.7)	(58.1)	(19.7)
Wentworth	Mi.	1,478	158	170	600	550
%		(100.0)	(10.7)	(11.5)	(40.6)	(37.2)
Sub-total	Mi.	2,439	240	302	1,158	739
%		(100.0)	(9.8)	(12.4)	(47.5)	(30.3)
B — Niagara						
Haldimand	Mi.	1,011	75	159	695	82
%		(100.0)	(7.4)	(15.7)	(68.7)	(8.1)
Lincoln	Mi.	1,232	79	162	708	283
%		(100.0)	(6.4)	(13.1)	(57.5)	(23.0)
Welland	Mi.	1,804	113	154	1,224	313
%		(100.0)	(6.3)	(8.5)	(67.8)	(17.4)
Sub-total	Mi.	4,047	267	475	2,627	678
%		(100.0)	(6.6)	(11.7)	(64.9)	(16.8)
Total, Niagara Region	Mi.	6,486	507	777	3,785	1,417
%		(100.0)	(7.8)	(12.0)	(58.4)	(21.8)
Total, Ontario	Mi.	86,610 ²	9,436	9,426	51,330	9,069
%		(100.0)	(10.9)	(10.9)	(59.3)	(10.5)
Niagara Region as % of Ontario	%	7.5	5.4	8.2	7.4	15.6

¹As of March 31, 1962.

²Includes 2,687 miles of secondary highways and 4,662 miles of unorganized township roads.

Note: Due to rounding, figures may not add to totals.

COMMUNICATIONS

ESTIMATED DISTRIBUTION OF TELEPHONES¹,
COUNTIES, NIAGARA REGION, 1951, 1956 AND 1962

	Number of Telephones ²			% Change	
	1951	1956	1962 ³	1962/1951	1962/1956
A — Burlington					
Brant	21,201	25,877	30,935	45.9	19.5
Wentworth ⁴	84,826	120,153	157,352	85.5	31.0
Sub-total	106,027	146,030	188,287	77.6	28.9
B — Niagara					
Haldimand ⁵	4,546	6,205	8,386	84.5	35.1
Lincoln	28,264	39,939	51,892	83.6	29.9
Welland	28,784	47,474	59,238	105.8	24.8
Sub-total	61,594	93,618	119,516	94.0	27.7
Total, Niagara Region	167,621	239,648	307,803	83.6	28.4
Total, Ontario	1,324,247	1,868,550	2,512,442	89.7	34.5
Niagara as % of Ontario	12.7	12.8	12.3		

¹Does not include telephones of systems owned or operated by Federal and Provincial Government departments or commissions, nor by incorporated companies other than telephone companies.

²Data relate to telephones serviced by exchanges located in the Niagara Region, and therefore actual coverage may not fall exactly within county or regional boundaries.

³Includes 1961 figures for number of telephones of independent systems, as 1962 data not available.

⁴Includes 4,650 telephones in 1951, 9,658 in 1956, and 17,697 in 1962, in the Burlington Exchange as part of Metropolitan Hamilton.

⁵Includes 2,282 telephones in 1951, 3,250 in 1956, and 4,515 in 1962 (1961 figures), operated by the only independent telephone system in the Region.

RADIO AND TELEVISION STATIONS,
NIAGARA REGION, 1962

		Radio		Television	
		Call Letters	Power (watts)	Call Letters	Power (watts)
A — Burlington					
Brantford	CKPC	10,000			
	CKPC-FM	405			
Hamilton	CHIQ	5,000 (day) 2,500 (night)		CHCH-TV	V 230,000 A 143,000
	CHML	5,000			
	CKOC	5,000			
B — Niagara					
Niagara Falls	CHVC	10,000			
St. Catharines	CKTB	10,000 (day) 5,000 (night)			
	CKTB-FM	250			
Welland	CHOW	1,000 (day) 500 (night)			
V — Video					
A — Audio					

**VALUE OF BUILDING PERMITS ISSUED,
NIAGARA REGION, 1951 TO 1962**

		Total	Residential	Industrial	Commercial	Institutional and Government	Other
1951	(\$000's)	64,359	32,346	15,717	8,129	8,092	75
	%	(100.0)	(50.3)	(24.4)	(12.6)	(12.6)	(0.1)
1952	(\$000's)	73,321	49,103	9,809	8,384	5,983	42
	%	(100.0)	(67.0)	(13.4)	(11.4)	(8.2)	(0.1)
1953	(\$000's)	89,455	56,265	7,511	11,257	14,376	46
	%	(100.0)	(62.9)	(8.4)	(12.6)	(16.1)	(0.1)
1954	(\$000's)	85,561	50,337	11,046	12,911	11,204	63
	%	(100.0)	(58.8)	(12.9)	(15.1)	(13.1)	(0.1)
1955	(\$000's)	95,941	63,901	7,885	13,722	10,341	92
	%	(100.0)	(66.6)	(8.2)	(14.3)	(10.8)	(0.1)
1956	(\$000's)	96,439	55,969	11,868	14,679	13,832	91
	%	(100.0)	(58.0)	(12.3)	(15.2)	(14.3)	(0.1)
1957	(\$000's)	94,332	52,885	18,182	11,031	12,101	133
	%	(100.0)	(56.1)	(19.3)	(11.7)	(12.8)	(0.1)
1958 ¹	(\$000's)	126,702	74,699	11,979	14,287	25,686	51
	%	(100.0)	(59.0)	(9.4)	(11.3)	(20.3)	*
1959	(\$000's)	125,910	66,965	10,004	22,510	26,389	42
	%	(100.0)	(53.2)	(7.9)	(17.9)	(21.0)	*
1960	(\$000's)	123,070	50,290	22,796	22,510	27,357	117
	%	(100.0)	(40.9)	(18.5)	(18.3)	(22.2)	(0.1)
1961	(\$000's)	97,415	45,286	15,411	18,208	18,456	54
	%	(100.0)	(46.5)	(15.8)	(18.7)	(18.9)	(0.1)
1962	(\$000's)	109,876	50,941	9,812	19,328	29,795	—
	%	(100.0)	(46.4)	(8.9)	(17.6)	(27.1)	
Percentage Increase 1962/1951		70.7	57.5	—37.6	137.8	268.2	—

*Less than 0.05 per cent.

¹As of January 1, 1958, figures are included for Burlington Town in Halton County, as part of Metropolitan Hamilton.

Industrial building includes permits issued for structures normally used in the following industries: agriculture, forestry, fishing, mining, manufacturing, construction, transportation, storage, communications and public utilities. Factories are the most common structure.

Commercial building includes permits issued for structures that fall within the following industries: trade, finance, insurance, real estate and recreation, business and personal service.

Institutional and Government includes expenditures by community, public and government services.

Other includes structures not classified elsewhere.

Note: 1. The figures include both new and repair construction.
2. Due to rounding, percentages may not add to 100.

CONSTRUCTION AND HOUSING

CONSTRUCTION OF DWELLING UNITS,
URBAN AREAS AND CENTRES OF 5,000 POPULATION AND OVER,
NIAGARA REGION, 1952 AND 1959 TO 1962

	Started					Completed				
	1952	1959	1960	1961	1962	1952	1959	1960	1961	1962
Hamilton (Metropolitan)	2,460 ¹	3,784 ²	2,682 ³	2,267	2,812	1,877 ¹	3,378 ²	3,718 ³	2,643	2,227
Hamilton (City)	1,449	2,389	1,889 ³	1,381	1,800	906	1,498	2,652 ³	1,699	1,370
Burlington	156	785 ⁴	323	481	649	97	1,191 ⁴	510	456	462
Dundas	126	76	55	189	102	43	55	65	201	88
Stoney Creek	61	23	167	10	45	46	37	89	35	82
Waterdown	13	3	5	2	6	11	6	6	2	6
Ancaster Twp. (pt.)	n.a.	174	83 ³	70	82	n.a.	223	117 ³	86	96
Flamborough E. Twp.	n.a.	45 ⁴	34	15	35	n.a.	38 ⁴	57	23	25
Flamborough W. Twp.	n.a.	131	53	63	31	n.a.	99	118	69	35
Saltfleet Twp. (pt.)	n.a.	135	73 ³	56	62	n.a.	170	104 ³	72	63
St. Catharines (Urban Area)	5	904	377	417	420	5	875	571	419	372
St. Catharines (City)	142	205	153	364 ⁶	371	113	189	133	367 ⁶	315
Merritton	n.a.	102	41	6	6	n.a.	133	72	6	6
Port Dalhousie	n.a.	12	4	6	6	n.a.	13	5	6	8
Thorold	86	45	12	9	9	64	36	30	13	8
Grantham Twp.	n.a.	419	92	6	6	n.a.	400	222	6	6
Thorold Twp.	n.a.	121	75	44 ⁷	40	n.a.	104	109	39 ⁷	49
Brantford (Urban Area)	5	334	622	216	326	5	284	518	305	272
Brantford (City)	253	217	534	148	262	308	193	414	211	215
Brantford Twp.	n.a.	117	88	68	64	n.a.	91	104	94	57
Niagara Falls (Urban Area)	5	402	193	179	197	5	425	306	200	182
Niagara Falls (City)	53	3	1	5	6	61	2	3	2	7
Chippawa	n.a.	82	42	17	22	n.a.	96	55	33	20
Stamford Twp.	n.a.	317	150	157	169	n.a.	327	248	165	155
Welland	70	100	48	168 ⁷	190	69	75	78	168 ⁷	196
Fort Erie	36	74	39	45	40	31	61	47	39	54
Port Colborne	93	69	63	46	32	63	63	66	54	37
Paris	17	24	17	18	13	10	31	22	20	12

n.a., not available.

¹Includes Hamilton City, Burlington, Dundas, Stoney Creek, Waterdown, Barton Twp. and 'other parts'.²From January 1, 1956, includes additional Townships of Flamborough East, Flamborough West, Nelson, and part of Ancaster and Saltfleet Twps.³From January 1, 1960, Barton Twp. and part of Ancaster, Glanford and Saltfleet Twps. incorporated in Hamilton City.⁴From January 1, 1958, Nelson Twp. and part of Flamborough East Twp. annexed to Burlington.⁵Not classified as an urban area prior to January 1, 1956.⁶From January 1, 1961, Merritton and Port Dalhousie, and Grantham Twp. included in St. Catharines City.⁷From January 1, 1961, part of Crowsland, Humberstone, Pelham and Thorold Twps. incorporated in Welland.

**OCCUPIED DWELLINGS
SHOWING TENURE AND SPECIFIED CHARACTERISTICS,
COUNTIES, NIAGARA REGION, JUNE 1, 1951 AND 1961**

	Total Occupied Dwellings No.	Occupied Dwellings						In Good Condition No. %	
		By Tenure ¹		Occupied Owner- Occupied ^a No. %		Occupied Tenant- Occupied ^a No. %			
		Average Number of Rooms No.	%	No.	%	No.	%		
A — Burlington									
Brant	1951	19,845	5.7	13,875	69.9	5,970	30.1	1,400	
	1961	23,301	5.6	17,585	75.5	5,716	24.5	1,531	
Wentworth	1951	70,070	5.4	47,735	68.1	22,335	31.9	4,340	
	1961	95,788	5.4	69,756	72.8	26,032	27.2	3,156	
Sub-total	1951	89,915	5.6	61,610	68.5	28,305	31.5	5,740	
	1961	119,089	5.5	87,341	73.3	31,748	26.7	4,687	
B — Niagara									
Haldimand	1951	6,735	6.6	5,135	76.2	1,600	23.8	680	
	1961	7,711	6.5	5,969	77.4	1,742	22.6	483	
Lincoln	1951	24,300	5.5	16,845	69.3	7,455	30.7	1,975	
	1961	34,585	5.5	26,778	77.4	7,807	22.6	1,256	
Welland	1951	32,345	5.6	23,010	71.1	9,335	28.9	2,490	
	1961	44,023	5.6	33,452	76.0	10,571	24.0	1,904	
Sub-total	1951	63,380	5.9	44,990	71.0	18,390	29.0	5,145	
	1961	86,319	5.9	66,199	76.7	20,120	23.3	3,643	
Total, Niagara Region	1951	153,295	5.8	106,600	69.5	46,695	30.5	10,885	
	1961	205,408	5.7	153,540	74.7	51,868	25.3	8,330	
Total, Ontario	1951	1,181,125	5.7	821,335	69.5	359,790	30.5	115,350	
	1961	1,640,750	5.5	1,157,229	70.5	483,521	29.5	74,127	
Niagara as % of Ontario	1951	13.0		13.0		13.0		9.4	
	1961	12.7		13.3		10.7		11.2	

n.a. not available.

¹Dwellings were classified by tenure depending on whether the home was owned or rented by the head of the household or a member of his immediate family.

^aIncludes dwellings in which the head was provided with free living quarters, whether or not in return for services rendered.

^bIncludes any dwelling in a seriously run-down or neglected condition with at least one of the following major structural deficiencies:

(a) sagging or crumbling foundation

(b) faulty roof or chimney

(c) rotting doorsills or window frames

(d) interior badly in need of repair.

**OCCUPIED DWELLINGS SHOWING WATER AND SEWAGE UTILITIES,
COUNTIES, NIAGARA REGION, JUNE 1, 1951 AND 1961**

	Total Occupied Dwellings	Dwellings with Running Water			Dwellings with Sewage Disposal		
		Source		Hot and Cold Only	Connection to Sewer		Septic Tank or Cesspool
		Municipal Mains	Private Source		Dwellings Without Running Water	n.a.	
A — Burlington	1951	No.	19,845 (100.0)	n.a.	13,680 (68.9)	3,455 (17.4)	2,710 (13.7)
	1961	No.	23,301 (100.0)	17,194 (73.8)	4,830 (20.7)	21,040 (90.3)	1,277 (4.2)
	1951	No.	70,070 (100.0)	n.a.	n.a.	55,450 (79.1)	10,160 (14.5)
	1961	No.	95,788 (100.0)	83,261 (86.9)	11,106 (11.6)	91,663 (95.7)	2,704 (2.8)
	Sub-total	1951	No.	89,915 (100.0)	n.a.	69,130 (76.9)	13,615 (15.1)
	1961	No.	119,089 (100.0)	100,455 (84.4)	15,936 (13.4)	112,703 (94.6)	7,170 (2.3)
B — Niagara	Haldimand	1951	No.	6,735 (100.0)	n.a.	n.a.	3,180 (47.2)
	1961	No.	7,711 (100.0)	2,936 (38.1)	3,466 (44.9)	5,907 (76.6)	945 (6.4)
	Lincoln	1951	No.	24,300 (100.0)	n.a.	n.a.	17,985 (74.0)
	1961	No.	34,585 (100.0)	28,943 (83.7)	4,508 (13.0)	32,282 (93.3)	1,169 (3.4)
	Welland	1951	No.	32,345 (100.0)	n.a.	n.a.	26,630 (82.3)
	1961	No.	44,023 (100.0)	37,596 (85.4)	5,338 (12.1)	41,712 (94.8)	1,222 (2.8)

**OCCUPIED DWELLINGS SHOWING WATER AND SEWAGE UTILITIES,
COUNTIES, NIAGARA REGION, JUNE 1, 1951 AND 1961 (Cont'd)**

	Total Occupied Dwellings	Dwellings with Running Water			Dwellings without Running Water			Dwellings with Sewage Disposal Connection to Sewer		
		Source	Municipal Mains	Private Source	Dwellings Without Running Water	9,285 (14.6)	57,500 (66.6)	23,520 (27.2)		
			n.a.	n.a.						
B — Niagara (Cont'd)										
Sub-total	1951	No.	63,380 (100.0)	n.a.	47,795 (75.4)	6,300 (9.9)	9,285 (14.6)	n.a.	n.a.	n.a.
	1961	No.	86,319 (100.0)	69,475 (80.5)	13,312 (15.4)	79,901 (92.6)	2,886 (3.3)	3,532 (4.1)	57,500 (66.6)	23,520 (27.2)
Total, Niagara Region	1951	No.	153,295 (100.0)	n.a.	116,925 (76.3)	19,915 (13.0)	16,455 (10.7)	n.a.	n.a.	n.a.
	1961	No.	205,408 (100.0)	169,930 (82.7)	29,248 (14.2)	192,604 (93.8)	6,574 (3.2)	6,230 (3.0)	144,344 (70.3)	51,503 (25.1)
Total, Ontario	1951	No.	1,181,125 (100.0)	n.a.	811,145 (68.7)	159,835 (13.5)	210,145 (17.8)	n.a.	n.a.	n.a.
	1961	No.	1,640,750 (100.0)	1,267,248 (77.2)	276,120 (16.8)	1,462,170 (89.1)	81,198 (4.9)	97,382 (5.9)	1,095,011 (66.7)	396,487 (24.2)
Niagara as % of Ontario	1951	%	13.0	n.a.	14.4	12.5	7.8	n.a.	n.a.	n.a.
	1961	%	12.5	13.4	10.6	13.2	8.1	13.2	13.2	13.0

CONSTRUCTION AND HOUSING

OCCUPIED DWELLINGS SHOWING SANITATION FACILITIES,
COUNTIES, NIAGARA REGION, JUNE 1, 1951 AND 1961

			Occupied Dwellings with						
			Total Occupied Dwellings	Bath Facilities		No Bath or Shower	Inside Flush Toilet		
				Exclusive Use	Shared Use		Exclusive Use	Shared Use	
A — Burlington									
Brant	1951	No.	19,845	14,045	1,120	4,680	15,010	1,065	n.a.
		%	(100.0)	(70.8)	(5.6)	(23.6)	(75.6)	(5.4)	
	1961	No.	23,301	20,250	807	967	19,787	1,782	2,117
		%	(100.0)	(86.9)	(3.5)	(4.2)	(84.9)	(7.6)	(9.1)
Wentworth	1951	No.	70,070	57,130	5,390	7,550	58,770	5,130	n.a.
		%	(100.0)	(81.5)	(7.7)	(10.8)	(83.9)	(7.3)	
	1961	No.	95,788	88,010	4,503	1,854	85,756	7,622	13,268
		%	(100.0)	(91.9)	(4.7)	(1.9)	(89.5)	(8.0)	(13.9)
Sub-total	1951	No.	89,915	71,175	6,510	12,230	73,780	6,195	n.a.
		%	(100.0)	(79.2)	(7.2)	(13.6)	(82.1)	(6.9)	
	1961	No.	119,089	108,260	5,310	2,821	105,543	9,404	15,385
		%	(100.0)	(90.9)	(4.5)	(2.4)	(88.6)	(7.9)	(12.9)
B — Niagara									
Haldimand	1951	No.	6,735	3,040	210	3,485	3,125	165	n.a.
		%	(100.0)	(45.1)	(3.1)	(51.7)	(46.4)	(2.4)	
	1961	No.	7,711	5,681	183	538	5,530	399	582
		%	(100.0)	(73.7)	(2.4)	(7.0)	(71.7)	(5.2)	(7.5)
Lincoln	1951	No.	24,300	18,235	810	5,255	18,940	765	n.a.
		%	(100.0)	(75.0)	(3.3)	(21.6)	(77.9)	(3.1)	
	1961	No.	34,585	31,738	829	884	30,304	2,523	4,620
		%	(100.0)	(91.8)	(2.4)	(2.6)	(87.6)	(7.3)	(13.4)
Welland	1951	No.	32,345	25,975	1,535	4,835	26,830	1,525	n.a.
		%	(100.0)	(80.3)	(4.7)	(14.9)	(82.9)	(4.7)	
	1961	No.	44,023	41,111	814	1,009	39,890	2,517	6,754
		%	(100.0)	(93.4)	(1.8)	(2.3)	(90.6)	(5.7)	(15.3)
Sub-total	1951	No.	63,380	47,250	2,555	13,575	48,895	2,455	n.a.
		%	(100.0)	(74.6)	(4.0)	(21.4)	(77.1)	(3.9)	
	1961	No.	86,319	78,530	1,826	2,431	75,724	5,439	11,956
		%	(100.0)	(91.0)	(2.1)	(2.8)	(87.7)	(6.3)	(13.9)
Total, Niagara Region ..	1951	No.	153,295	118,425	9,065	25,805	122,675	8,650	n.a.
		%	(100.0)	(77.3)	(5.9)	(16.8)	(80.0)	(5.6)	
	1961	No.	205,408	186,790	7,136	5,252	181,267	14,843	27,341
		%	(100.0)	(90.9)	(3.5)	(2.6)	(88.2)	(7.2)	(13.3)
Total, Ontario	1951	No.	1,181,125	805,035	55,330	320,760	846,760	56,090	n.a.
		%	(100.0)	(68.2)	(4.7)	(27.2)	(71.7)	(4.7)	
	1961	No.	1,640,750	1,397,122	64,664	81,582	1,378,207	115,433	227,607
		%	(100.0)	(85.2)	(3.9)	(5.0)	(84.0)	(7.0)	(13.9)
Niagara as % of									
Ontario	1951	%	13.0	14.7	16.4	8.0	14.5	15.4	n.a.
	1961	%	12.5	13.4	11.0	6.4	13.2	12.9	12.0

**OCCUPIED DWELLINGS
SHOWING PRINCIPAL HEATING EQUIPMENT AND FUEL,
COUNTIES, NIAGARA REGION, JUNE 1, 1951 AND 1961**

	Total Occupied Dwellings No.	Furnace Heating				Occupied Dwellings with				Type of Fuel			
		Steam or Hot Water No. %		Hot Air No. %		Coal or Wood No. %		Oil No. %		Gas No. %			
A — Burlington													
Brant	1951	19,845	2,410	12.1	9,340	47.1	14,695	74.0	4,490	22.6	645	3.3	
	1961	23,301	2,805	12.0	14,780	63.4	4,462	19.1	14,033	60.2	4,770	20.5	
Wentworth	1951	70,070	14,380	20.5	38,825	55.4	52,435	74.8	16,610	23.7	945	1.3	
	1961	95,788	18,690	19.5	66,818	69.8	15,232	15.9	66,721	69.7	13,393	14.0	
Sub-total	1951	89,915	16,790	18.7	48,165	53.6	67,130	74.7	21,100	23.5	1,590	1.8	
	1961	119,089	21,495	18.0	81,598	68.5	19,694	16.5	80,754	67.8	18,163	15.3	
B — Niagara													
Haldimand	1951	6,735	300	4.5	1,225	18.2	3,650	54.2	950	14.1	2,110	31.3	
	1961	7,711	394	5.1	2,916	37.8	1,227	15.9	1,984	25.7	4,480	58.1	
Lincoln	1951	24,300	4,695	19.3	10,425	42.9	16,880	69.5	6,820	28.1	505	2.1	
	1961	34,585	6,395	18.5	22,592	65.3	4,202	12.1	21,894	63.3	8,388	24.3	
Welland	1951	32,345	6,440	19.9	14,080	43.5	22,045	68.2	7,565	23.4	2,700	8.3	
	1961	44,023	7,724	17.5	28,893	65.6	3,535	8.0	16,980	38.6	23,398	53.1	
Sub-total	1951	63,380	11,435	18.0	25,730	40.6	42,575	67.2	15,335	24.2	5,315	8.4	
	1961	86,319	14,513	16.8	54,401	63.0	8,964	10.4	40,858	47.3	36,266	42.0	
Total, Niagara Region	1951	153,295	28,225	18.4	73,895	48.2	109,705	71.6	36,435	23.8	6,905	4.5	
	1961	205,408	36,008	17.5	135,999	66.2	28,658	14.0	121,612	59.2	54,429	26.5	
Total, Ontario	1951	1,181,125	239,985	20.3	491,980	41.7	839,635	71.1	293,945	24.9	45,015	3.8	
	1961	1,640,750	350,264	21.3	969,157	59.1	291,482	17.8	1,014,153	61.8	327,938	20.0	
Niagara as % of Ontario	1951	13.0	11.8	15.0	13.1	12.4					15.3		
	1961	12.5	10.3	14.0	12.0	16.6							

OCCUPIED DWELLINGS SHOWING SPECIFIED LIVING CONVENIENCES,
COUNTIES, NIAGARA REGION, JUNE 1, 1951 AND 1961

		Occupied Dwellings with				Occupied Dwellings with			
		Refrigeration Facilities		Home Freezer		Telephone ³		Television Set	
		Total Occupied Dwellings	Total ¹	Mech- anical ²	Ice-box	n.a.	14,980 (75.5)	n.a.	10,850 (54.7)
A — Burlington	No.	19,845 (100.0)	17,705 (89.2)	11,985 (60.4)	5,690 (28.7)	n.a.	14,980 (75.5)	n.a.	10,850 (54.7)
	%	23,301 (100.0)	22,904 (98.3)	22,646 (97.2)	240 (1.0)	3,272 (14.0)	21,780 (93.5)	21,270 (91.3)	18,030 (53.)
Wentworth	No.	70,070 (100.0)	65,335 (93.2)	51,490 (73.5)	13,675 (19.5)	n.a.	54,450 (77.7)	n.a.	37,795 (53.9)
	%	95,788 (100.0)	94,791 (99.0)	94,371 (98.5)	400 (0.4)	10,599 (11.1)	95,940 (99.2)	87,885 (91.7)	71,358 (75.5)
1961	No.	89,915 (100.0)	83,940 (92.4)	63,475 (70.6)	19,365 (21.5)	n.a.	69,430 (77.2)	n.a.	48,645 (54.1)
	%	119,089 (100.0)	117,695 (98.8)	117,017 (98.3)	640 (0.5)	13,871 (11.6)	116,820 (98.1)	109,155 (91.7)	90,388 (70.0)
Sub-total |	No.								12,857 (75.9)
	%								(10.8)
B — Niagara	No.	6,735 (100.0)	5,305 (78.8)	4,185 (62.1)	1,030 (15.3)	n.a.	3,875 (57.5)	n.a.	4,640 (68.9)
	%	7,711 (100.0)	7,535 (97.7)	7,445 (96.6)	*	1,949 (25.3)	5,940 (77.0)	6,730 (87.3)	6,440 (83.5)
Haldimand	No.	24,300 (100.0)	21,810 (89.8)	16,350 (67.3)	5,400 (22.2)	n.a.	17,605 (72.4)	n.a.	13,750 (56.6)
	%	34,585 (100.0)	34,205 (98.9)	33,974 (98.2)	225 (0.7)	5,059 (14.6)	31,980 (91.6)	31,035 (89.7)	28,444 (82.2)
Lincoln	No.								4,245 (12.3)
	%								(12.2)

OCCUPIED DWELLINGS SHOWING SPECIFIED LIVING CONVENIENCES,
COUNTIES, NIAGARA REGION, JUNE 1, 1951 AND 1961 (Cont'd)

	Total Occupied Dwellings	Refrigeration Facilities			Occupied Dwellings with			Passenger Automobile		
		Total ¹		Ice-box	Home Freezer		Telephone ³	Total	Two or More	Total
		Mach- anical ²	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
B — Niagara (Cont'd)										
Welland	1951	No.	32,345	29,900 (92.4)	21,310 (65.9)	8,470 (26.2)	n.a.	24,405 (75.5)	n.a.	19,210 (59.4)
	%	(100.0)	44,023	43,630 (99.1)	43,382 (98.5)	248 (0.6)	6,451 (14.7)	43,560 (98.9)	41,170 (93.5)	35,558 (5.3)
1961	No.	(100.0)	63,380	57,015 (90.0)	41,845 (66.0)	14,900 (23.5)	n.a.	45,885 (72.4)	2,353 (5.3)	4,961 (80.8)
	%	(100.0)	86,319	85,370 (100.0)	84,801 (98.9)	473 (0.5)	13,459 (15.6)	81,180 (94.0)	78,935 (91.4)	37,600 (5.2)
Sub-total	.....	1951	No.	153,295	140,055 (91.4)	105,320 (68.7)	34,265 (22.4)	n.a.	115,315 (75.2)	n.a.
	%	(100.0)	205,408	203,065 (100.0)	201,818 (98.9)	1,113 (0.5)	27,330 (13.3)	198,000 (96.4)	188,090 (91.6)	86,245 (6.3)
1961	No.	(100.0)								160,830 (6.3)
	%									23,023 (78.3)
Total, Niagara Region	.....	1951	No.	1,181,125	973,060 (82.4)	728,670 (61.7)	236,150 (20.0)	n.a.	864,580 (73.2)	n.a.
	%	(100.0)	1,640,750	1,598,498 (100.0)	1,588,075 (97.4)	9,598 (96.8)	221,859 (0.6)	n.a.	1,456,624 (88.8)	640,135 (54.2)
1961	No.	(100.0)								1,246,882 (76.0)
	%									161,307 (9.8)
Total, Ontario	.....	1951	No.	1,181,125	973,060 (82.4)	728,670 (61.7)	236,150 (20.0)	n.a.	864,580 (73.2)	n.a.
	%	(100.0)	1,640,750	1,598,498 (100.0)	1,588,075 (97.4)	9,598 (96.8)	221,859 (0.6)	n.a.	1,456,624 (88.8)	640,135 (54.2)
1961	No.	(100.0)								1,246,882 (76.0)
	%									161,307 (9.8)
Niagara as % of Ontario	.....	1951	%	13.0	14.4	14.5	14.5	—	13.3	—
	%	1961		12.5	12.7	12.7	11.6	12.3	—	12.9
									12.9	12.1

^a Less than 100.

^b n.a. not available.

^c Includes other miscellaneous types of refrigeration.

^d Includes electric and gas refrigerators.

^e 1961 figures estimated by the Ontario Department of Economics and Development.

CONSTRUCTION AND HOUSING

**TENANT-OCCUPIED NON-FARM DWELLINGS BY MONTHLY RENT
AND LIVING CONVENiences INCLUDED IN RENT,
SELECTED CENTRES, NIAGARA REGION, JUNE 1, 1961**

	Total Rented Dwellings ¹	Dwellings with Monthly Cash Rent of			Dwellings with Rent Including			Average Monthly Cash Rent \$
		Under \$50		\$50-79	\$80-99		\$100 and over	
		Refrig- eration	Cooking Stove	Furniture	Garage			
Brant								
Brantford ² :								
Urban Area	No.	4,462	1,022	2,711	427	101	730	238
%	(100.0)	(22.9)	(60.8)	(9.6)	(2.3)	(2.3)	(16.4)	(24.5)
City Proper	No.	4,447	1,022	2,706	422	101	730	238
%	(100.0)	(22.9)	(60.9)	(9.5)	(2.3)	(2.3)	(16.4)	(24.6)
Lincoln								
St. Catharines:								
Urban Area	No.	6,500	1,251	4,343	541	104	1,143	1,508
%	(100.0)	(19.2)	(66.8)	(8.3)	(1.6)	(1.6)	(17.6)	(23.2)
City Proper	No.	5,905	1,028	3,991	536	104	1,109	1,454
%	(100.0)	(17.4)	(67.6)	(9.1)	(1.8)	(1.8)	(18.8)	(24.6)
Fringe Areas	No.	595	123	205	*	*	*	*
%	(100.0)	(20.7)	(34.5)					
188								
Niagara Falls:								
Urban Areas ³	No.	3,663	579	2,323	427	*	742	987
%	(100.0)	(15.8)	(63.4)	(11.7)	(11.7)	*	(20.3)	(26.9)
City Proper	No.	2,171	292	1,455	137	*	443	615
%	(100.0)	(13.5)	(67.0)	(6.3)	(6.3)	*	(20.4)	(28.3)
Fringe Areas ³	No.	1,492	122	863	249	*	299	372
%	(100.0)	(8.2)	(58.2)	(8.2)	(16.7)	(16.7)	(20.0)	(24.9)
Stamford Twp.	No.	1,412	148	808	229	*	269	347
%	(100.0)	(10.5)	(57.2)	(16.2)	(19.1)	(19.1)	(24.6)	(25.3)

**TENANT-OCCUPIED NON-FARM DWELLINGS BY MONTHLY RENT
AND LIVING CONVENiences INCLUDED IN RENT,
SELECTED CENTRES, NIAGARA REGION, JUNE 1, 1960 (Cont'd)**

	Total Rented Dwellings ¹	Dwellings with Monthly Cash Rent of			Dwellings with Rent Including			Average Monthly Cash Rent \$
		Under \$50		\$50-79	\$80-99	\$100 and over	Refrig- eration	
		Under \$50	\$50-79	\$80-99	\$100 and over	Furniture	Cooking Stove	
Welland								
Welland	No.	2,512	593	1,658	*	*	230 (9.2)	286 (11.4)
	%	(100.0)	(23.6)	(66.0)			(5.6)	(19.7)
Port Colborne	No.	1,286	416	682	*	*	*	*
	%	(100.0)	(32.1)	(52.6)				
Wentworth								
Hamilton:								
Metropolitan ⁴	No.	27,563	3,231	14,551	5,419	3,572	10,613 (38.5)	12,333 (44.7)
	%	(100.0)	(11.7)	(52.8)	(19.7)	(13.0)	(38.5)	(13.2)
City Proper	No.	22,629	2,459	12,874	4,309	2,429	9,142 (40.4)	10,601 (46.8)
	%	(100.0)	(10.9)	(56.9)	(19.0)	(10.7)	(40.4)	(11.1)
Fringe Areas ⁴	No.	4,934	665	1,677	1,081	1,110	1,471 (29.8)	1,732 (35.1)
	%	(100.0)	(13.5)	(34.0)	(22.5)	(21.9)	(22.6)	(30.0)
Burlington ⁵	No.	2,102	*	420	674	775	955 (45.4)	1,048 (49.9)
	%	(100.0)		(20.0)	(32.1)	(36.9)	(23.8)	(23.8)
Dundas	No.	797	*	206	*	*	244 (30.6)	287 (36.0)
	%	(100.0)		(25.8)				

¹Less than 100.²Includes dwellings with "no cash rent", as well as dwellings in rental brackets with a count of less than 100.³Rented dwellings in fringe areas less than 100.⁴Includes Stamford Township.⁵Includes Burlington and Dundas.⁶The Town of Burlington (Halton County) is included as part of Metropolitan Hamilton.

Note: Due to rounding, percentages may not add to 100.

CONSTRUCTION AND HOUSING

TYPE OF OCCUPIED DWELLING,
COUNTIES, NIAGARA REGION, JUNE 1, 1951 AND 1961

	Total Occupied Dwellings ¹	Single Detached ²		Apartments and Flats ³		Other ⁴		
		No.	%	No.	%	No.	%	
A — Burlington								
Brant	1951	19,845	14,560	73.4	4,005	20.2	1,280	6.4
	1961	23,301	17,770	76.3	4,143	17.8	1,388	6.0
Wentworth	1951	70,070	48,655	69.4	16,035	22.9	5,380	7.7
	1961	95,788	69,297	72.3	20,438	21.3	6,053	6.3
Sub-total	1951	89,915	63,215	70.3	20,040	22.3	6,660	7.4
	1961	119,089	87,067	73.1	24,581	20.6	7,441	6.2
B — Niagara								
Haldimand	1951	6,735	5,360	79.6	920	13.7	455	6.8
	1961	7,711	6,244	81.0	792	10.3	675	8.8
Lincoln	1951	24,300	18,980	78.1	3,930	16.2	1,390	5.7
	1961	34,585	27,945	80.8	4,922	14.2	1,718	5.0
Welland	1951	32,345	24,315	75.2	6,600	20.4	1,430	4.4
	1961	44,023	34,633	78.7	6,876	15.6	2,514	5.7
Sub-total	1951	63,380	48,655	76.8	11,450	18.1	3,275	5.2
	1961	86,319	68,822	79.7	12,590	14.6	4,907	5.7
Total, Niagara Region	1951	153,295	111,870	73.0	31,490	20.5	9,935	6.5
	1961	205,408	155,889	75.9	37,171	18.1	12,348	6.0
Total, Ontario	1951	1,181,125	823,930	69.8	219,360	18.6	137,835	11.7
	1961	1,640,750	1,140,653	69.5	324,859	19.8	175,238	10.7
Niagara as % of Ontario	1951	13.0	13.6		14.4		7.2	
	1961	12.5	13.7		11.4		7.0	

¹Defined as a structurally separate set of living quarters with a private entrance.²Defined as a house containing one dwelling unit and completely separated on all sides from any other building.³Includes apartments; suites in duplexes or triplexes (i.e. division between dwelling units is horizontal); living quarters above or in the rear of business quarters; janitors' quarters; private quarters for families of staff in institutions.⁴Includes single attached, mobile and miscellaneous.

Note: Due to rounding, percentages may not add to 100.

DOMESTIC AND FARM ELECTRIC METER REGISTRATIONS,
COUNTIES, NIAGARA REGION, DECEMBER 31, 1960

	Urban Domestic Service	Rural Non-Farm Domestic Service		Farm Service	Total	
		(Number of Meters)				
A — Burlington						
Brant	17,825	2,095		2,366	22,286	
Wentworth	83,702	10,176		3,573	97,451	
Sub-total	101,527	12,271		5,939	119,737	
B — Niagara						
Haldimand	3,393	10,725		4,022	18,140	
Lincoln	18,553	8,532		2,020	29,105	
Welland	31,613	12,350		2,197	46,160	
Sub-total	53,559	31,607		8,239	93,405	
Total, Niagara Region	155,086	43,878		14,178	213,142	
Total, Ontario	1,277,229	331,959		145,323	1,754,511	
Niagara Region as % of Ontario	12.1	13.2		9.8	12.1	

**CONSTRUCTION AND HOUSING STATISTICS,
TOWN OF BURLINGTON**

Value of Building Permits Issued, 1951 to 1962

	Total	Residential	Industrial	Commercial	Institutional and Government	Other
1951	(\$000's)	1,035	792	4	102	136
	%	(100.0)	(76.5)	(0.4)	(9.9)	(13.1)
1952	(\$000's)	1,159	796	40	67	256
	%	(100.0)	(68.7)	(3.5)	(5.8)	(22.1)
1953	(\$000's)	3,521	2,747	125	552	96
	%	(100.0)	(78.0)	(3.6)	(15.7)	(2.7)
1954	(\$000's)	2,715	2,257	24	207	227
	%	(100.0)	(83.1)	(0.9)	(7.6)	(8.4)
1955	(\$000's)	2,096	1,654	48	237	152
	%	(100.0)	(78.9)	(2.3)	(11.3)	(7.3)
1956	(\$000's)	2,186	1,631	64	171	317
	%	(100.0)	(74.6)	(2.9)	(7.8)	(14.5)
1957	(\$000's)	2,020	1,559	79	345	37
	%	(100.0)	(77.2)	(3.9)	(17.1)	(1.8)
1958 ¹	(\$000's)	19,857	16,562	1,616	860	819
	%	(100.0)	(83.4)	(8.1)	(4.3)	(4.1)
1959	(\$000's)	13,521	7,857	710	1,104	3,850
	%	(100.0)	(58.1)	(5.3)	(8.2)	(28.5)
1960	(\$000's)	10,780	4,589	2,309	1,321	2,544
	%	(100.0)	(42.6)	(21.4)	(12.3)	(23.6)
1961	(\$000's)	10,821	6,025	1,158	2,737	901
	%	(100.0)	(55.7)	(10.7)	(25.3)	(8.3)
1962	(\$000's)	12,602	6,921	1,488	935	3,258
	%	(100.0)	(54.9)	(11.8)	(7.4)	(25.9)

*Less than 0.05 per cent.

¹Nelson Township annexed January 1, 1958.**Type of Occupied Dwelling, June 1, 1951 and 1961**

	Occupied Dwellings Total	Single Detached		Apartments and Flats		Other	
		No.	%	No.	%	No.	%
1951	1,730	1,330	76.9	n.a.		n.a.	
1961	12,299	10,253	83.4	1,669	13.6	377	3.1

Occupied Dwellings Showing Tenure and Specified Characteristics, June 1, 1951 and 1961

	Total Occupied Dwellings	Average Number of Rooms	Occupied Dwellings									
			By Tenure				In Need of Major Repair				In Good Condition	
			Owner- Occupied		Tenant- Occupied		No.	%	No.	%	No.	%
			No.	No.	No.	No.					No.	%
1951	1,730	5.5	1,300	75.1	430	24.9	*				n.a.	
1961	12,299	5.7	10,143	82.5	2,156	17.5	248	2.0	10,569	85.9		

*Less than 100.

CONSTRUCTION AND HOUSING

CONSTRUCTION AND HOUSING STATISTICS,
TOWN OF BURLINGTON (Cont'd)

Occupied Dwellings Showing Water and Sewage Utilities, June 1, 1951 and 1961

	Total Dwellings Occupied	Dwellings with Running Water				Dwellings Without Running Water	Dwellings with Sewage Disposal		
		Source		Hot and Cold	Cold Only		Connection to Sewer	Septic Tank or Cesspool	
		Municipal Mains	Private Source						
1951	No.	1,730	n.a.	n.a.	n.a.	*	n.a.	n.a.	
	%	(100.0)							
1961	No.	12,299	10,879	1,226	11,883	222	194	6,096	
	%	(100.0)	(88.5)	(10.0)	(96.6)	(1.8)	(1.6)	(49.6)	
								5,885	
								(47.8)	

Occupied Dwellings Showing Sanitation Facilities, June 1, 1951 and 1961

	Total Occupied Dwellings	Occupied Dwellings with					
		Bath Facilities		No Bath or Shower	Inside Flush Toilet		
		Exclusive Use	Shared Use		Exclusive Use	Shared Use	Two or More
1951	No.	1,730	1,575	n.a.	n.a.	1,610	n.a.
	%	(100.0)	(91.0)			(93.1)	
1961	No.	12,299	11,856	*	166	11,354	627
	%	(100.0)	(96.4)		(1.3)	(92.3)	(5.1)
							2,522
							(20.5)

*Less than 100.

Occupied Dwellings Showing Principal Heating Equipment and Fuel, June 1, 1951 and 1961

	Total Occupied Dwellings	Occupied Dwellings with					
		Furnace Heating		Coal or Wood		Oil	
		Steam or Hot Water	Hot Air	No.	%	No.	%
1951	No.	1,730	n.a.	856	7.0	10,186	82.8
1961	No.	12,299	2,135	76.5	n.a.	n.a.	1,232
	%		17.4	9,405			10.0

Occupied Dwellings Showing Specified Living Conveniences, June 1, 1951 and 1961

	Total Occupied Dwellings	Occupied Dwellings with									
		Refrigeration Facilities			Television Set		Passenger Automobile				
		Total	Mechan- ical	Ice- Box	Home Freezer	Telephone	Total	Two or More	Total	Two or More	
1951	No.	1,730	n.a.	1,390	n.a.	n.a.	1,490	n.a.	1,135	n.a.	
	%	(100.0)		(80.3)			(86.1)		(65.6)		
1961	No.	12,299	12,259	12,215	*	2,300	n.a.	11,588	1,456	11,410	2,729
	%	(100.0)	(99.7)	(99.3)		(18.7)		(94.2)	(11.8)	(92.8)	(22.2)

*Less than 100.

n.a. not available.

Tenant-Occupied Non-Farm Dwellings by Monthly Rent and Living Conveniences Included in Rent, June 1, 1961

	Total Rented Dwellings	Dwellings with Monthly Cash Rent of				Dwellings with Rent Including				Average Monthly Cash Rent \$
		Under \$50	\$50-79	\$80-99	\$100 and Over	Re- frigeration	Cooking Stove	Fur- niture	Garage	
		No.	%	(20.0)	(32.1)	(36.9)	(45.4)	(49.9)	(23.8)	
1961	No.	2,102	*	420	674	775	955	1,048	500	92
	%	(100.0)								

*Less than 100.

Note: Due to rounding, percentages may not add to 100.

MAP OF THE NIAGARA REGION

Prepared by

SPECIAL RESEARCH AND SURVEYS BRANCH

ONTARIO DEPARTMENT OF ECONOMICS AND DEVELOPMENT

1963

